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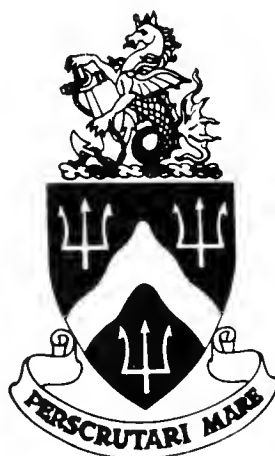
November 1967-1968



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UNITED STATES COAST GUARD

OCEANOGRAPHIC



UNITED STATES COAST GUARD OCEANOGRAPHIC UNIT

REPORT No. 49 CG 373-49

OCEANOGRAPHIC OBSERVATIONS
NORTH ATLANTIC OCEAN STATION ECHO
November 1967-December 1968

Alan D. Rosebrook





Abstract

Observed and interpolated temperature and salinity data, plus computed sigma-t values, geopotential anomalies and sound velocities, are presented for 315 oceanographic stations occupied by U.S. Coast Guard cutters at Ocean Station ECHO (centered at $35^{\circ} 00'N$, $48^{\circ} 00'W$) during November 1967–December 1968. Profiles of temperature versus depth and salinity versus depth, as well as a plot of temperature versus salinity are presented for each of the 14 patrols. Plots of temperature versus time and salinity versus time at selected depths are presented and analyzed to describe annual temperature and salinity cycles at ECHO. The presence of Mediterranean water at intermediate depths, and a series of temperature and salinity cycles with periods of 2 to 3 months at depths between 200 and 700 m are noted.

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Oceanographic Observations on North Atlantic Ocean Station ECHO

November 1967–December 1968

Alan D. Rosebrook¹

INTRODUCTION

Ocean Station ECHO (figs. 1 and 2) is one of four stations in the North Atlantic Ocean which have been regularly occupied by U.S. Coast Guard cutters for the acquisition of meteorological and oceanographical data. The Coast Guard Oceanographic Unit, in cooperation with the U.S. Naval Oceanographic Office (NAVOCEANO), first conducted oceanographic observations at ECHO aboard CGC CASCO in January–February 1963. These data were published in U.S. Coast Guard Oceanographic Report No. CG 373–2 (Morse and McGary, 1964). A long-term series of observations was initiated by CGC YAKUTAT in September–October 1966. The results of oceanographic observations taken from September 1966 through October 1967 were presented in U.S. Coast Guard Oceanographic Report No. CG 373–21 (Shuhy, 1969).

DATA COLLECTION AND PROCESSING

A total of 315 oceanographic stations was taken by U.S. Coast Guard cutters at Ocean Station ECHO during 14 patrols from 28 November 1967 to 5 December 1968. A summary of oceanographic operations during the period is presented as table 1.

On 12 patrols, 226 daily Nansen casts were made to sample 14 prescribed levels to 1,500 meters, weather and operational commitments permitting. Initially, shallow cast observations were desired at 0, 25, 50, 75, 100, 150, 200, 400, 500, 600, 800, 1,000, 1,250 and 1,500 m. During

the June–July 1968 patrol by CGC HALF MOON a Nansen bottle was placed at 300 m and the 1,250 bottle was deleted. For the remainder of the observational period the desired depths were 0, 25, 50, 75, 100, 150, 200, 300, 400, 600, 800, 1,000, 1,250 and 1,500 m. In addition, once during each patrol at least one deep cast to near bottom was attempted. The additional sampling depths prescribed for deep casts were 2,000, 2,500, and 3,000 m, and 150 and 50 m off the bottom. Twenty deep casts were taken successfully during the period.

Each Nansen bottle was equipped with two protected deep sea reversing thermometers. In addition, five Nansen bottles used at 200 meters and below were each fitted with an unprotected thermometer so that thermometric depths could be determined. Temperature data were transmitted to the Coast Guard Oceanographic Unit via radioteletype immediately after each cast for real-time data processing and quality control. *In situ* temperature values were computed by a Digital Equipment Corp. PDP–5 computer to determine corrected temperatures and thermometric depths. After the data were quality controlled, they were relayed to Fleet Weather Central, Norfolk, Va., and to Fleet Numerical Weather Central, Monterey, Calif., for use in forecasting synoptic oceanic conditions.

Water samples were drawn from the Nansen bottles and the salinity of the samples was determined using a shipboard inductive salinometer. The conductivity values obtained were converted to salinity by use of the International Oceanographic Tables published jointly by UNESCO and the National Institute of Ocean-

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TABLE 1.— *Summary of oceanographic operations on Ocean Station ECHO, November 1967–December 1968*

Cruise number ¹	Coast Guard Cutter	Dates	Number of casts		NODC Reference No.	Data table	Standard sections
			Shallow	Deep			
E-7	CASTLE ROCK -----	11/28–12/11/67	8	0	31-1181	I	None.
E-8	HUMBOLDT -----	1/10– 2/ 1/68	23	1	31-1203	II	None.
E-9	ESCANABA -----	2/29– 3/19/68	18	1	31-1240	III	None.
E-10	MENDOTA -----	4/12– 5/ 4/68	18	1	31-1262	IV	A-6 (31-1262).
E-11	CASCO -----	5/ 5– 5/27/68	13	7	31-1248	V	None.
E-12	SEBAGO -----	5/28– 6/19/68	20	2	31-1273	VI	A-7 (31-1273).
E-13	HALF MOON -----	6/20– 7/12/68	23	4	31-1304	VII	A-4 (31-1304).
E-14	CASTLE ROCK -----	7/14– 8/ 4/68	20	1	31-1303	VIII	A-4 (31-1303).
E-15	SEBAGO -----	8/ 5– 8/27/68	23	1	31-1311	IX	None.
E-16	CHASE (STD) -----	9/ 1– 9/22/68	71	0	31-8502	X	None.
E-17	DALLAS -----	9/23–10/11/68	19	1	31-1381	XI	A-4 (31-1382).
E-18	YAKUTAT -----	10/12–11/ 5/68	25	1	31-1383	XII	A-5 (31-1384).
E-19	Mc CULLOCH -----	11/ 6–11/25/68	16	0	31-1385	XIII	A-6 (31-1386).
E-20	BOUTWELL (STD) ---	11/30–12/ 5/68	18	0	31-8078	XIV	None.

¹ The letter "E" in the Cruise number indicates data taken at Ocean Station ECHO. The number following the hyphen is the serial number of the occupation.

ography of Great Britain (1966). The results were sent to the Coast Guard Oceanographic Unit by radioteletype at intervals of 3–5 days. An additional water sample was collected from the top and bottom Nansen bottle of each cast for delivery to the Coast Guard Oceanographic Unit at the end of the patrol for the purpose of quality control.

During two patrols on Ocean Station ECHO, temperature and salinity data were collected using a salinity-temperature-depth sensor system (STD). The STD was used for the first time on ECHO in September 1968 when a Bissett-Berman Model 9006 STD system collected salinity data to a maximum depth of 300 m. No temperature data were recorded because of failure of the temperature sensor. During the November–December 1968 ECHO patrol, the Model 9040 STD system was utilized for the first time on any ocean station. Problems with the salinity sensor resulted in salinity data being recorded at only five of the 18 stations occupied. STD data were relayed by each cutter directly to Fleet Weather Central, Norfolk, Va. for use in forecasting synoptic oceanic conditions. In addition, all data were returned to the Coast Guard Oceanographic Unit for quality control prior to submission to the National Oceanographic Data Center (NODC).

The processed temperature and salinity data from all observations were recorded on Form NHO/NODC-3167/40(4-66), "Physical and

Chemical Data Form for Oceanographic Stations," and delivered to the National Oceanographic Data Center (NODC). The interpolated temperatures and salinities for standard depths, sigma-t values, specific volume anomalies, and sound velocities were computed by NODC and are presented in appendix A.

Ocean station vessels normally maintain their position within a 10-mile square grid (centered at 35° 00'N, and 48° 00'W for ECHO), operations and weather permitting. Oceanographic stations are normally taken inside the 10-mile central grid. The positions of all stations taken outside the central grid during each patrol are shown in figures 3–16.

INTERPRETATION OF RESULTS

The data collected during 14 patrols on Ocean Station ECHO from 28 November 1967 to 5 December 1968 were analyzed to determine if annual cycles of temperature and salinity could be observed (figs. 44 and 45). Changes in surface layer temperature followed a seasonal pattern, reaching a maximum in midsummer and a minimum during the colder winter months. Salinity also varied with the seasons, generally increasing and decreasing in phase with the temperature. The salinity cycle, however, was not as well defined as the temperature cycle.

The annual temperature cycle at ECHO during the observational period consisted of a cooling trend in the surface water from Novem-

ber 1967 through February 1968. By late January, the cooling effect extended to a depth of 200 m. The minimum surface temperature (17.37°C) was recorded on 1 March 1968, after which a gradual warming of the surface layer was noted. After remaining relatively constant during April and May 1968, the sea surface temperature began to increase until the maximum temperature value (25.27°C) was reached on 1 August 1968. Temperature values remained near the maximum value through September before cooling caused a gradual decline throughout the remainder of the observational period.

During November and December 1967, the water column was isothermal to a depth of about 85 m. As cooling continued, the depth of the isothermal layer increased. By late January 1968, it had reached a maximum depth of about 200 m. During March and April 1968, the surface water layer began warming slowly. Below the gradually deepening layer of warmer surface water, the water column remained isothermal to almost 200 m. By May 1968, surface heating and wind mixing had combined to destroy the subsurface isothermal layer. As the surface water mass began to cool in September, an isothermal layer developed and had reached a depth of 100 m by early December 1968.

Seasonal temperature variation was confined to the upper 200 m. A main thermocline was observed during the entire observational period approximately between 200 and 800 m. Below 800 m the temperature values remained relatively constant with depth and showed little variation during the year.

A strong correlation existed between the temperature and salinity cycle observed between November 1967 and December 1968; temperature increases and decreases were usually matched by similar changes in salinity values. Surface salinity values during the observation period ranged from 36.08‰ to 36.55‰. The annual salinity cycle was characterized by lower salinity values in the surface layer during the cooler winter months, and higher values during the summer. The top of the permanent halocline at about 250 m effectively marked the limit of seasonal salinity variations. The halocline extended to a depth of approximately 700 m. Beneath the halocline, salinity values were relatively constant with

depth and time down to 1,500 m.

In November–December 1967, salinity values increased with depth from the surface, reaching a maximum value at approximately 110 m. Between January and May 1968, the water column was essentially isohaline in the top 200 m. During the summer months from early June to the middle of August 1968, salinity values were highest at the surface and decreased with depth. In the last half of August 1968, a salinity maximum again occurred between 75 and 100 m, and by November 1968, it was found at depths between 120 and 170 m.

In addition to the annual temperature and salinity cycles, temperature and salinity cycles having periods of 2 to 3 months were noted at depths between 200 and 800 m. During each cycle, temperature and salinity values increased to a maximum during a 2- to 4-week period, before decreasing to minimum values 2 to 5 weeks later. Maximum values occurred on 26 January, 18 March, 5 May, 11 August, and 19 October 1968. The temperature difference between maximum and minimum values ranged from approximately 1.2°C in May 1968 to 3.4°C in March 1968. The salinity difference ranged from 0.35‰ in May 1968 to 0.58‰ in March 1968. A possible explanation for the cycles was the periodic intrusion of warmer, more saline Gulf Stream water through ECHO caused by meandering of the current.

Two principal water masses were observed in the top 1,500 m of the water column at Ocean Station ECHO. North Atlantic Central Water, characterized by a nearly straight T–S curve between the points $T=8^{\circ}\text{C}$, $S=35.10\text{‰}$ and $T=19^{\circ}\text{C}$, $S=36.70\text{‰}$ (Sverdrup et al. 1942, p. 668), was present at depths from 200 m to about 800 m.

At intermediate depths (800–1,500 m) the water mass present at ocean station ECHO is a mixture of variable quantities of at least two defined masses; Mediterranean Water and North Atlantic Deep Water. Wüst (1936) called this intermediate mass Upper North Atlantic Deep Water in his discussion of the “Meteor” data, and Defant (1961, p. 692) constructed a standard curve (T–S) to show the percentage of Mediterranean Water present in the mass. The form of the T–S curves constructed from data collected on ECHO (figs. 45–57) clearly showed the influence of Mediterranean Water,

characterized by its high salinity. This influence was particularly strong during the May–June 1968 occupation (fig. 51) when the water mass at intermediate depths was made up of approximately 35 percent Mediterranean Water, as computed from Defant's standard curve.

Ocean Station ECHO was occupied during the passage of hurricane BRENDA from 18–26 June 1968. BRENDA maintained hurricane intensity for little more than a day, with maximum surface winds of 65 knots occurring on 23 June 1968. The storm was downgraded to a tropical storm on 24 June, and passed 120 miles north of ECHO at 1300Z, 25 June 1968. The track of the storm center is shown in Figure 58. As the storm approached ECHO, a drop in sea surface temperature (21.98 to 21.03°C) occurred between 22 and 25 June 1968. Sea surface temperature remained near the low value until 1 July 1968, when it began to increase at

a rate of 0.35°C per day during the next 2 weeks. There was, however, no noticeable change in the surface salinity values during the passage of BRENDA.

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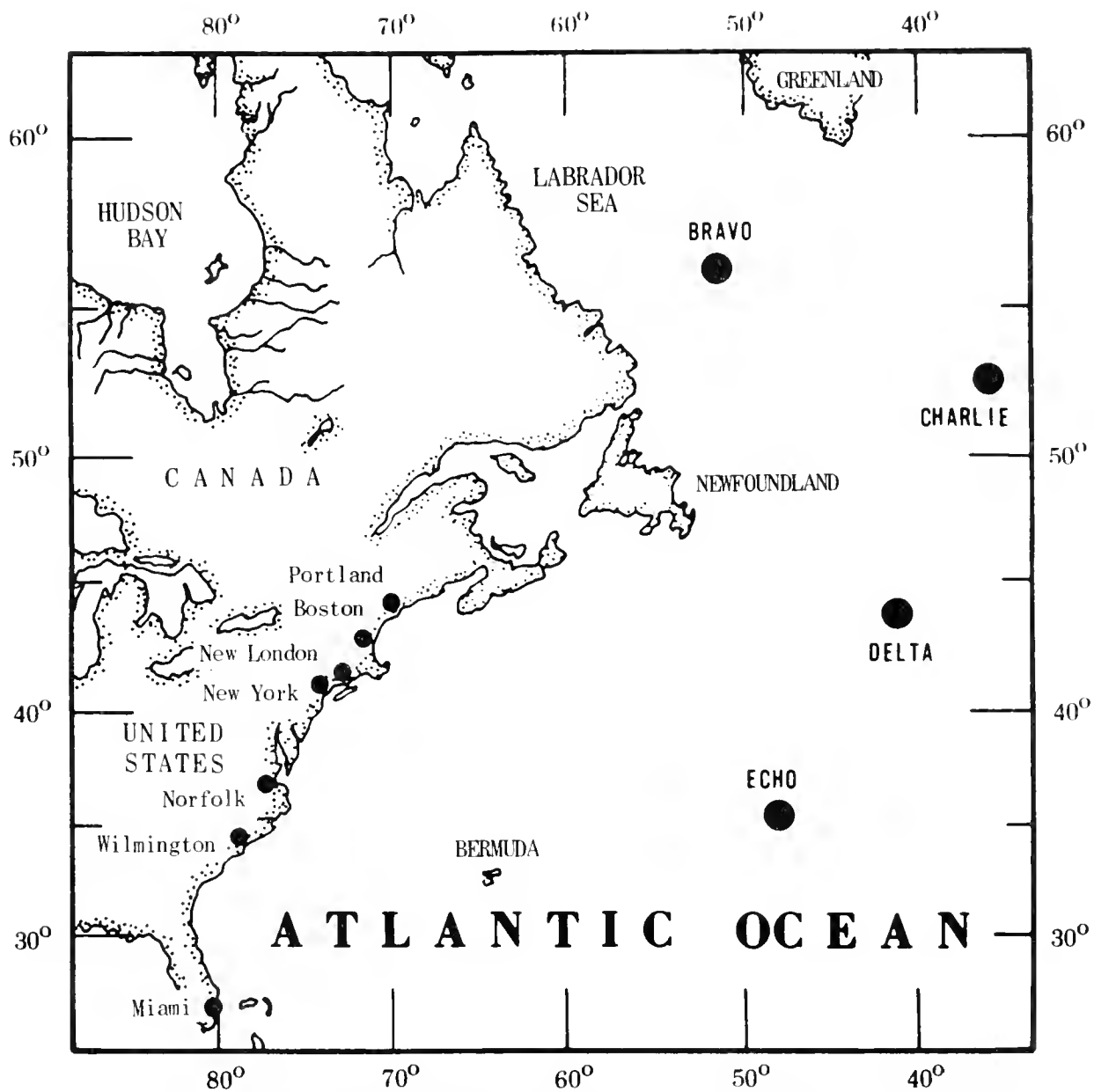


Figure 1. Chart showing the location of all North Atlantic Ocean Stations occupied by U.S. Coast Guard cutters.

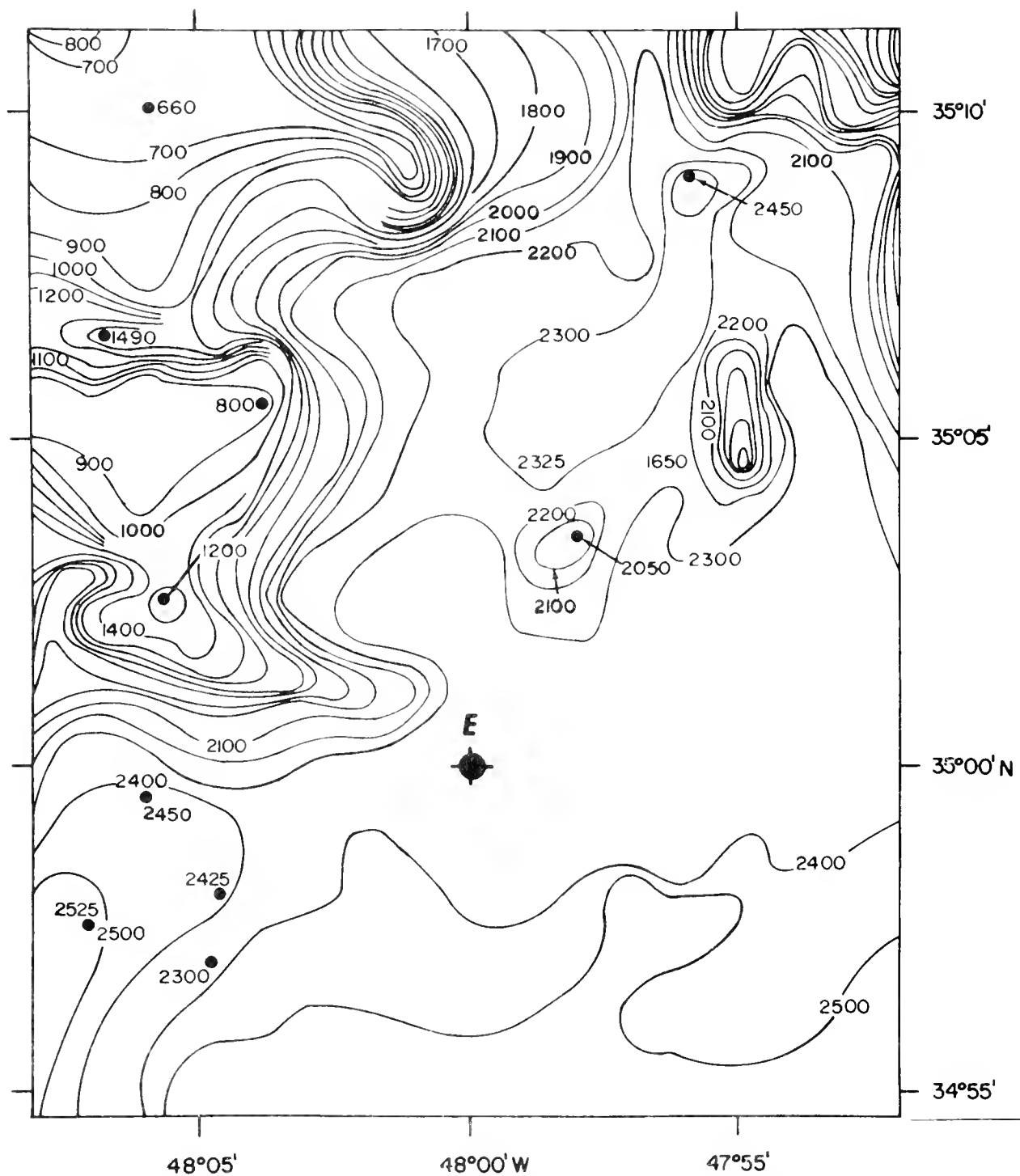


Figure 2. Bathymetry in the vicinity of Ocean Station ECHO, taken from a bathymetric overlay compiled for the U.S. Coast Guard by the U.S. Navy Hydrographic Office, December 1960.
(Soundings in fathoms, contour interval 100 fathoms.)

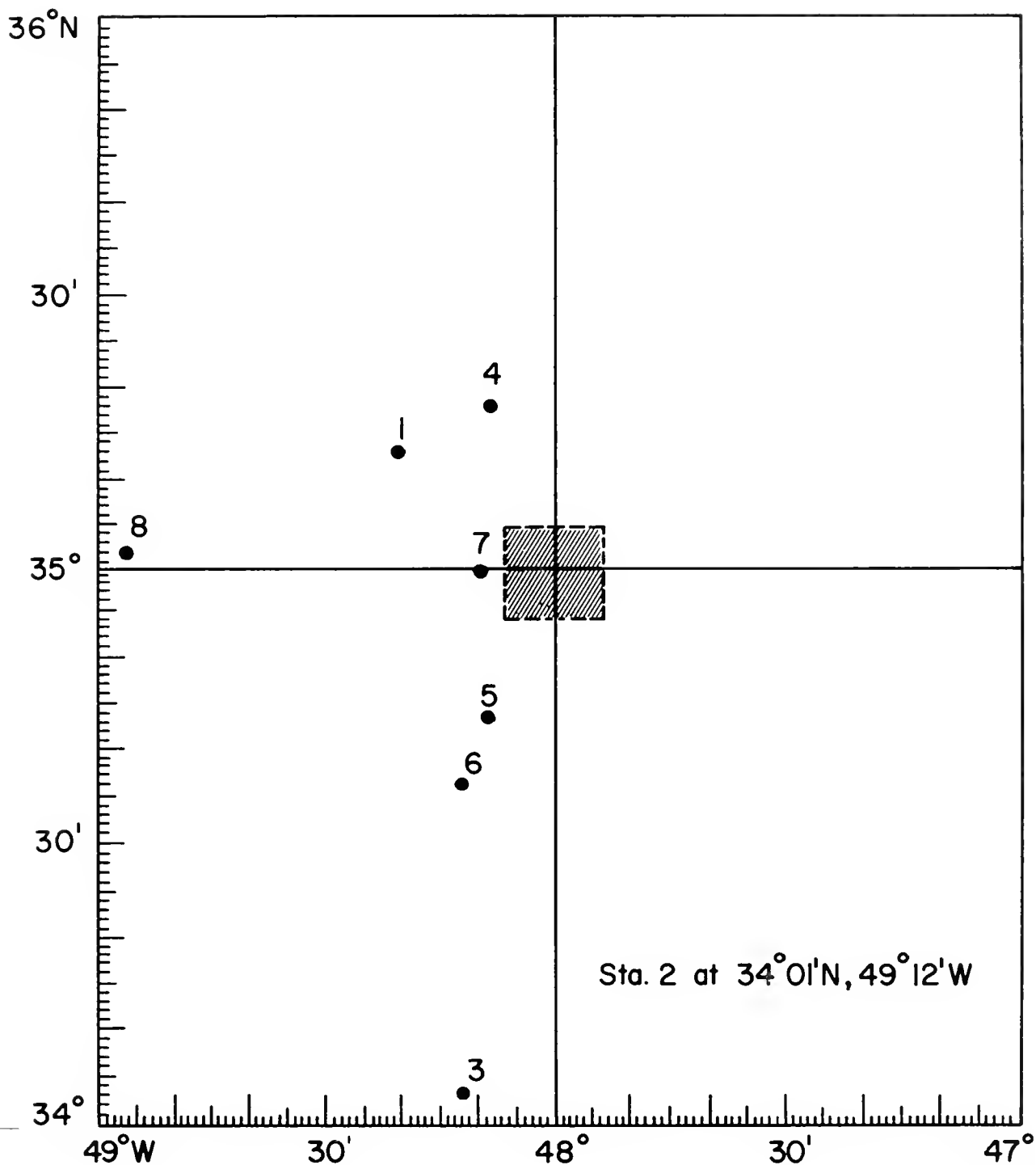


Figure 3. Positions of oceanographic stations taken by CGC CASTLE ROCK during 28 November–11 December 1967. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

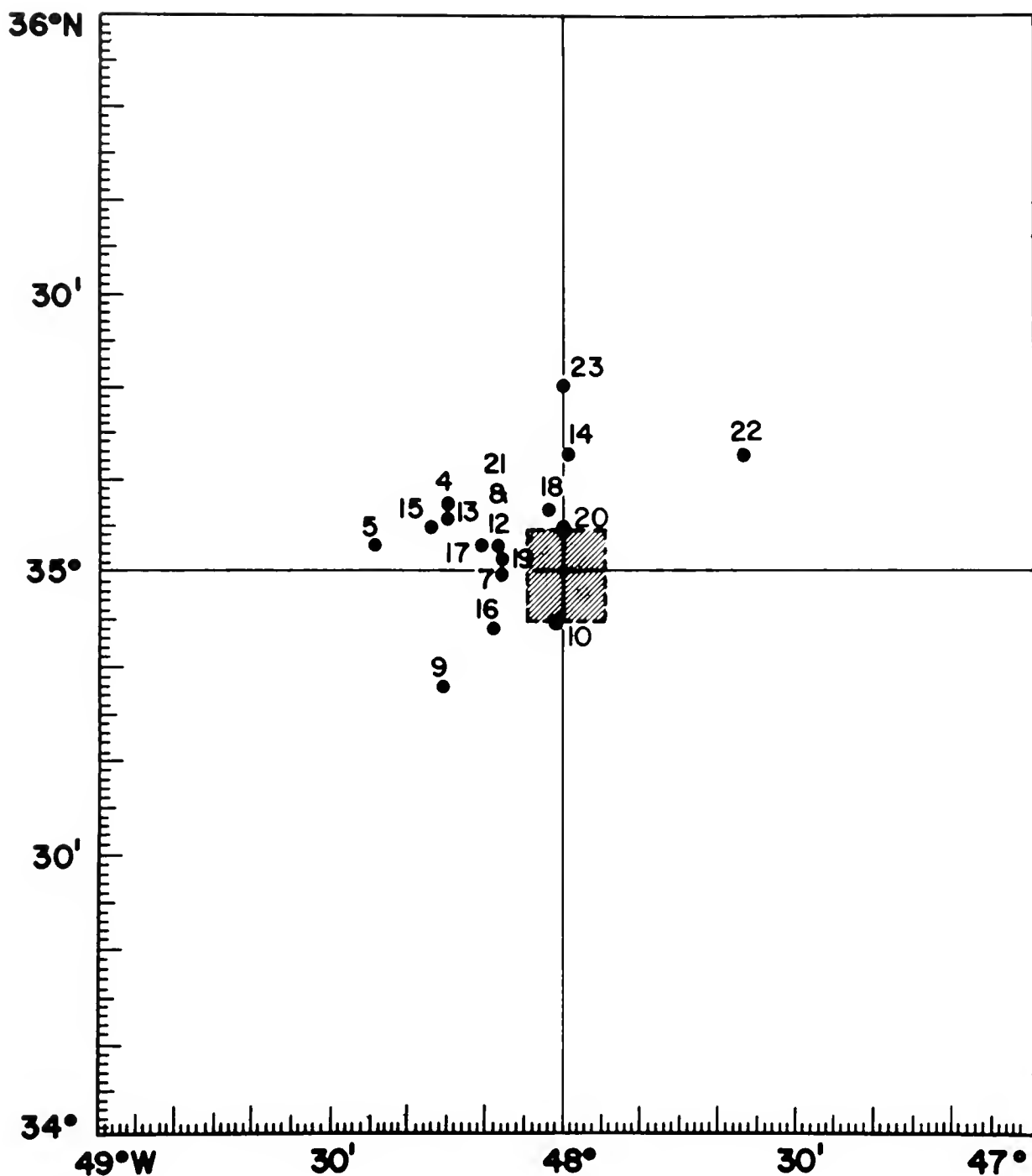


Figure 4. Positions of oceanographic stations taken by CGC HUMBOLDT during 10 January–1 February 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

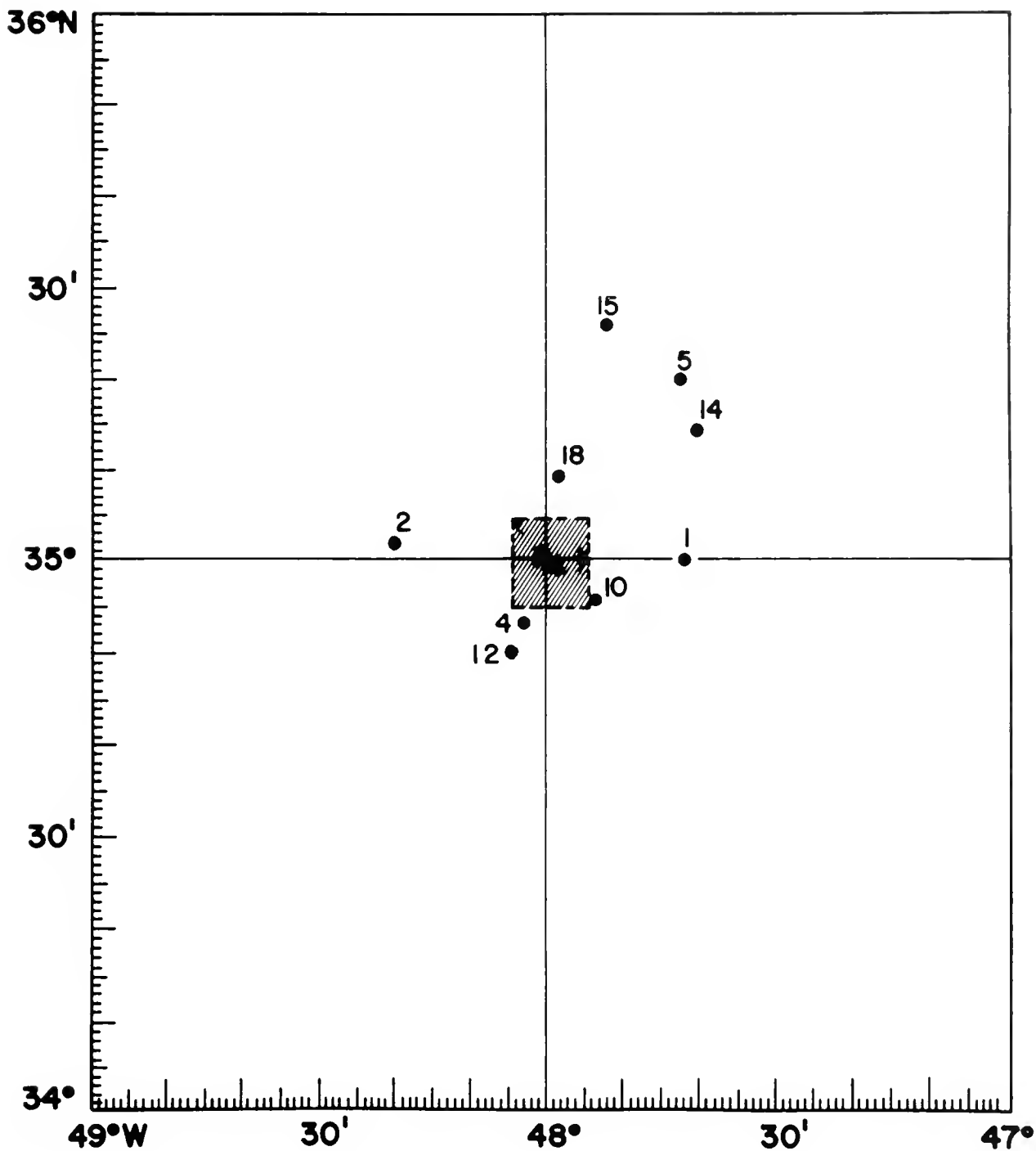


Figure 5. Positions of oceanographic stations taken by CGC ESCANABA during 29 February–19 March 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

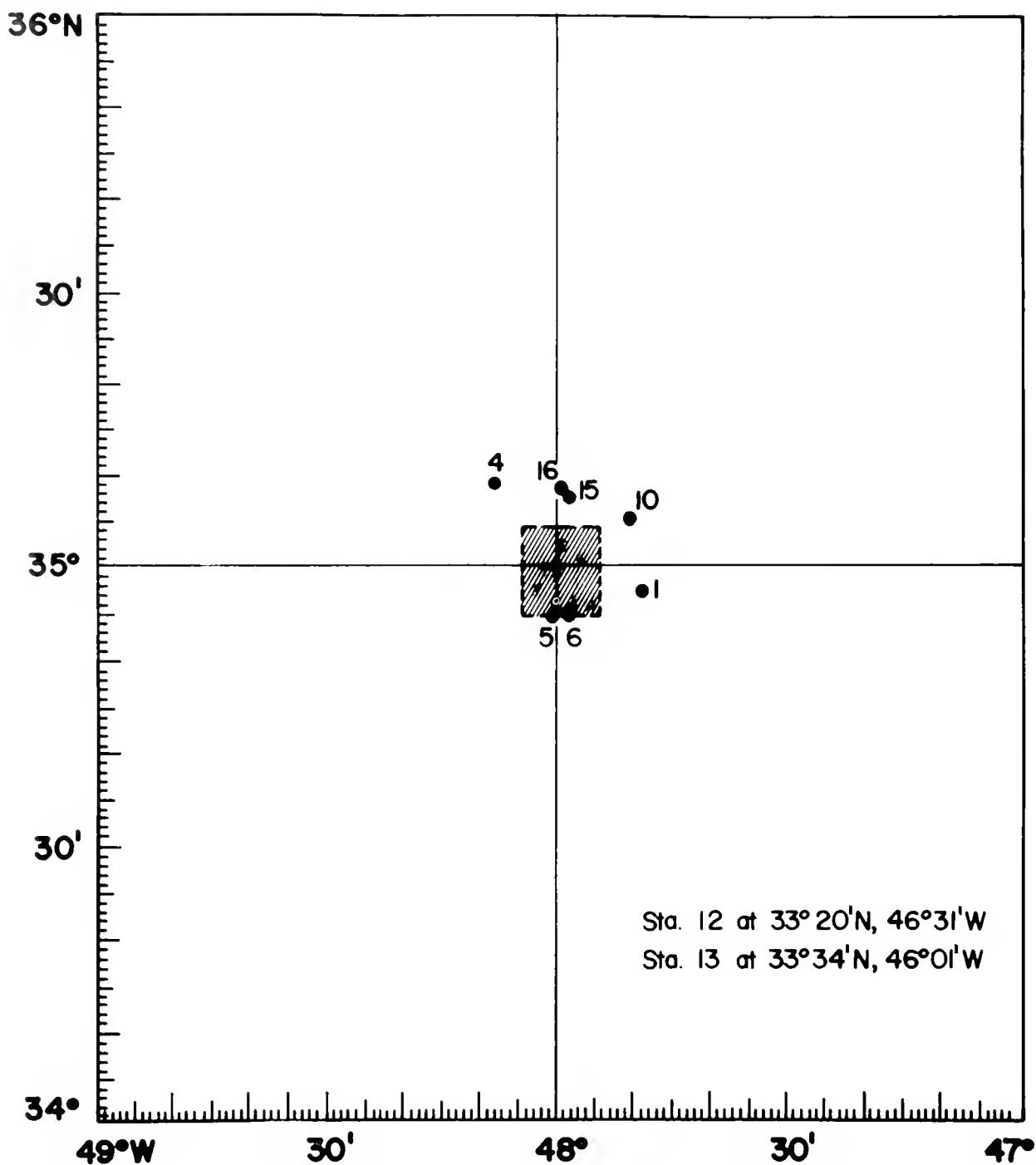


Figure 6. Positions of oceanographic stations taken by CGC MENDOTA during 12 April–4 May 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

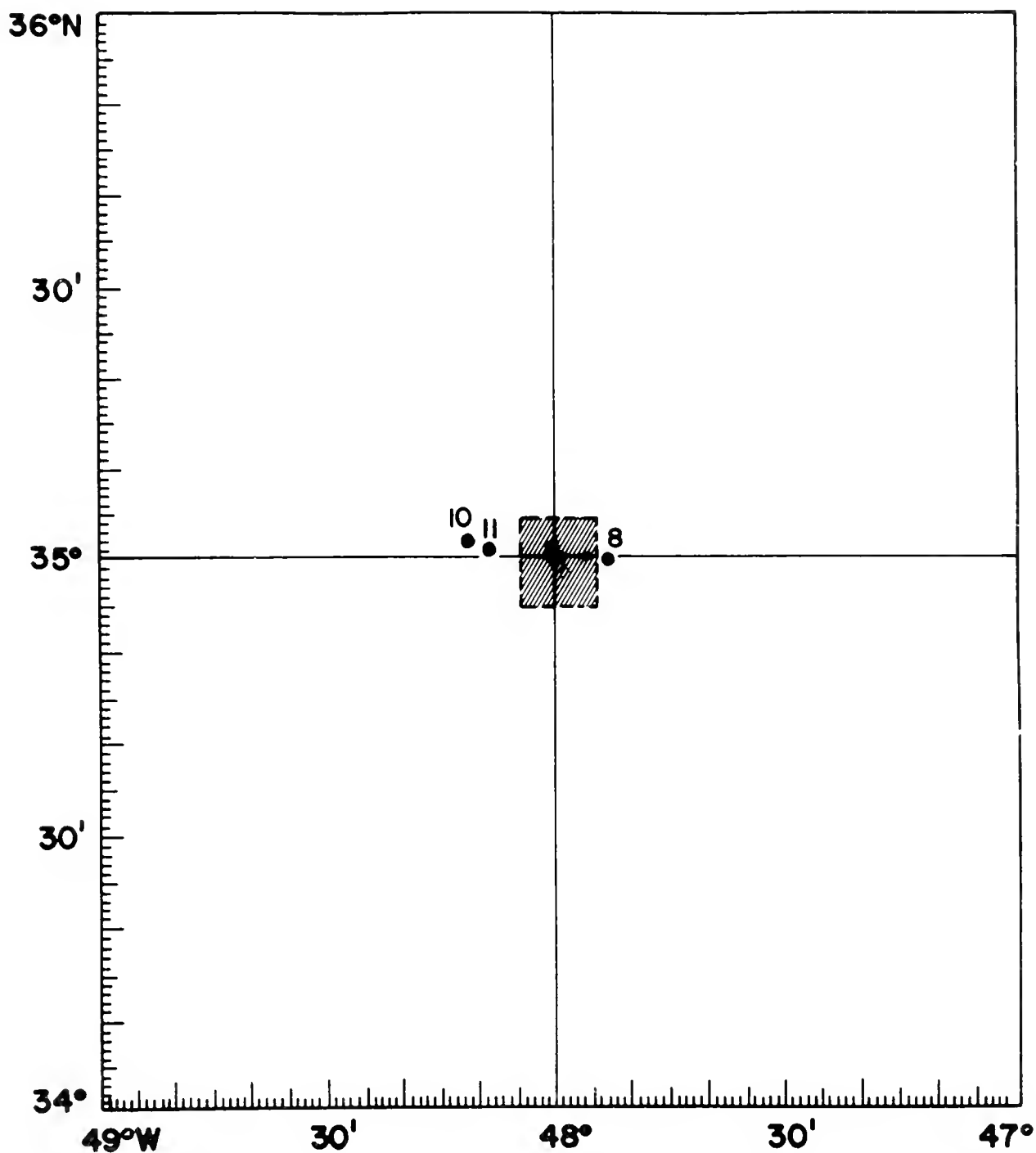


Figure 7. Positions of oceanographic stations taken by CGC CASCO during 5-27 May 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

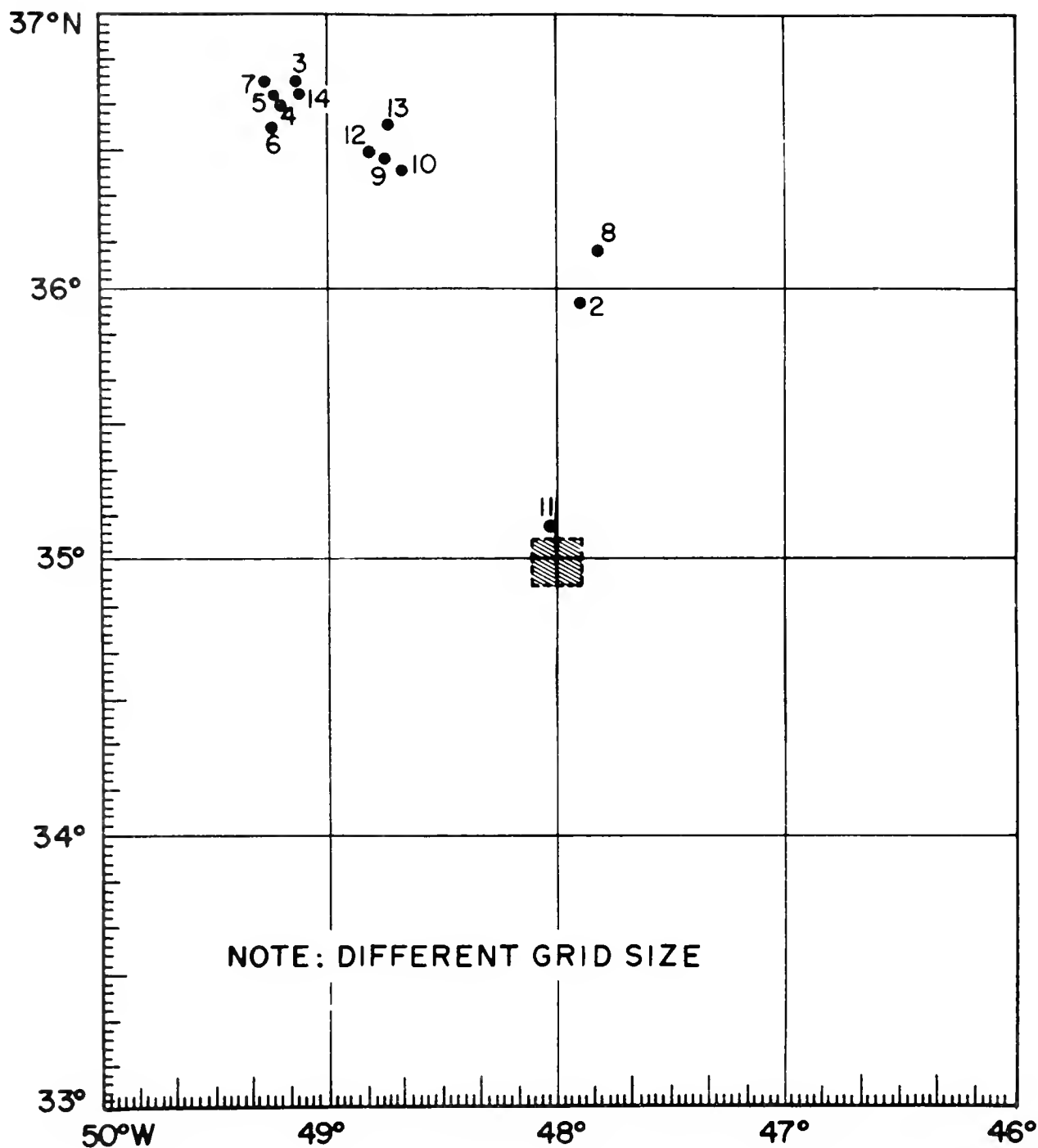


Figure 8. Positions of oceanographic stations taken by CGC SEBAGO during 28 May–19 June 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

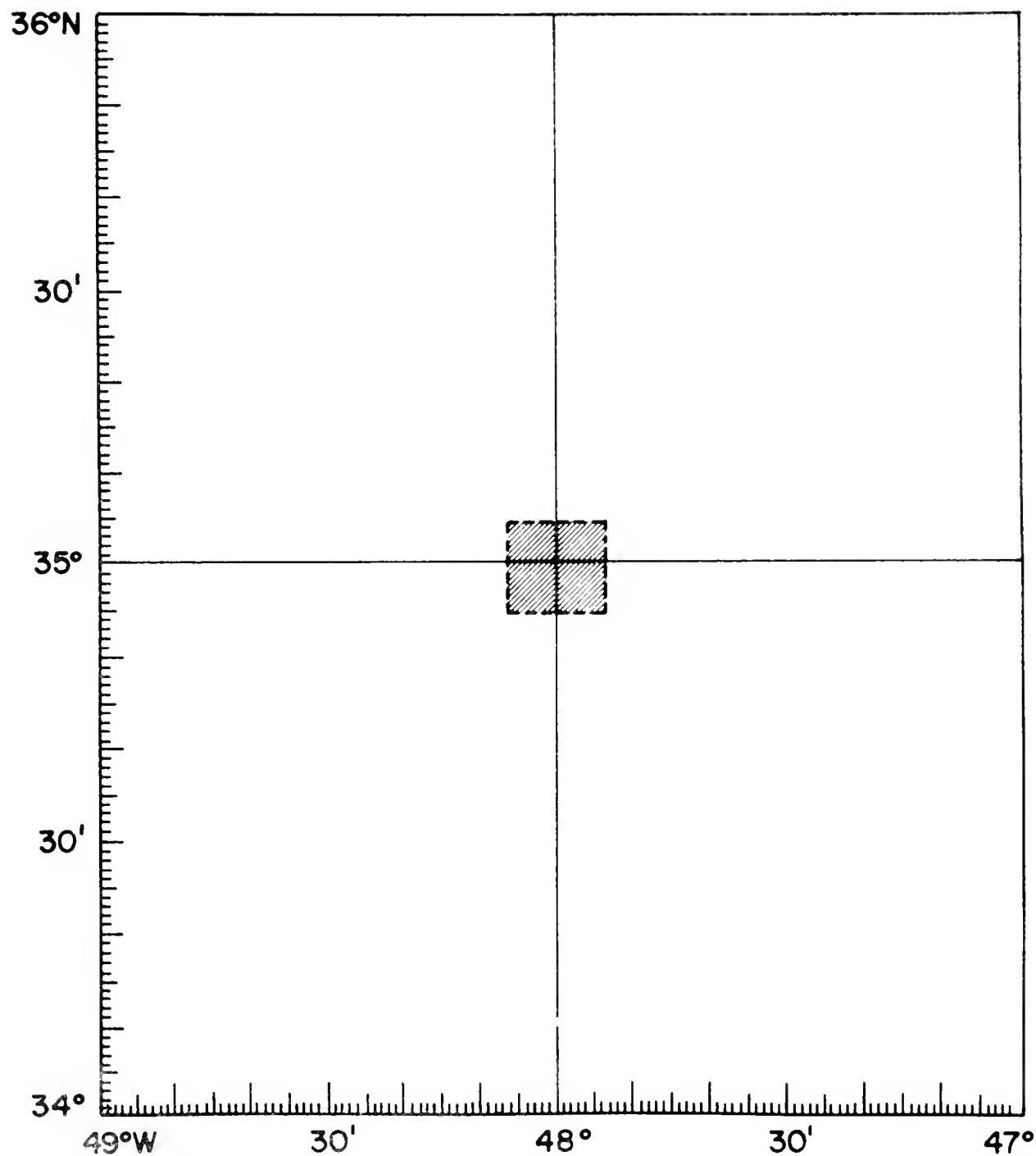


Figure 9. Positions of oceanographic stations taken by CGC HALF MOON during 20 June–12 July 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

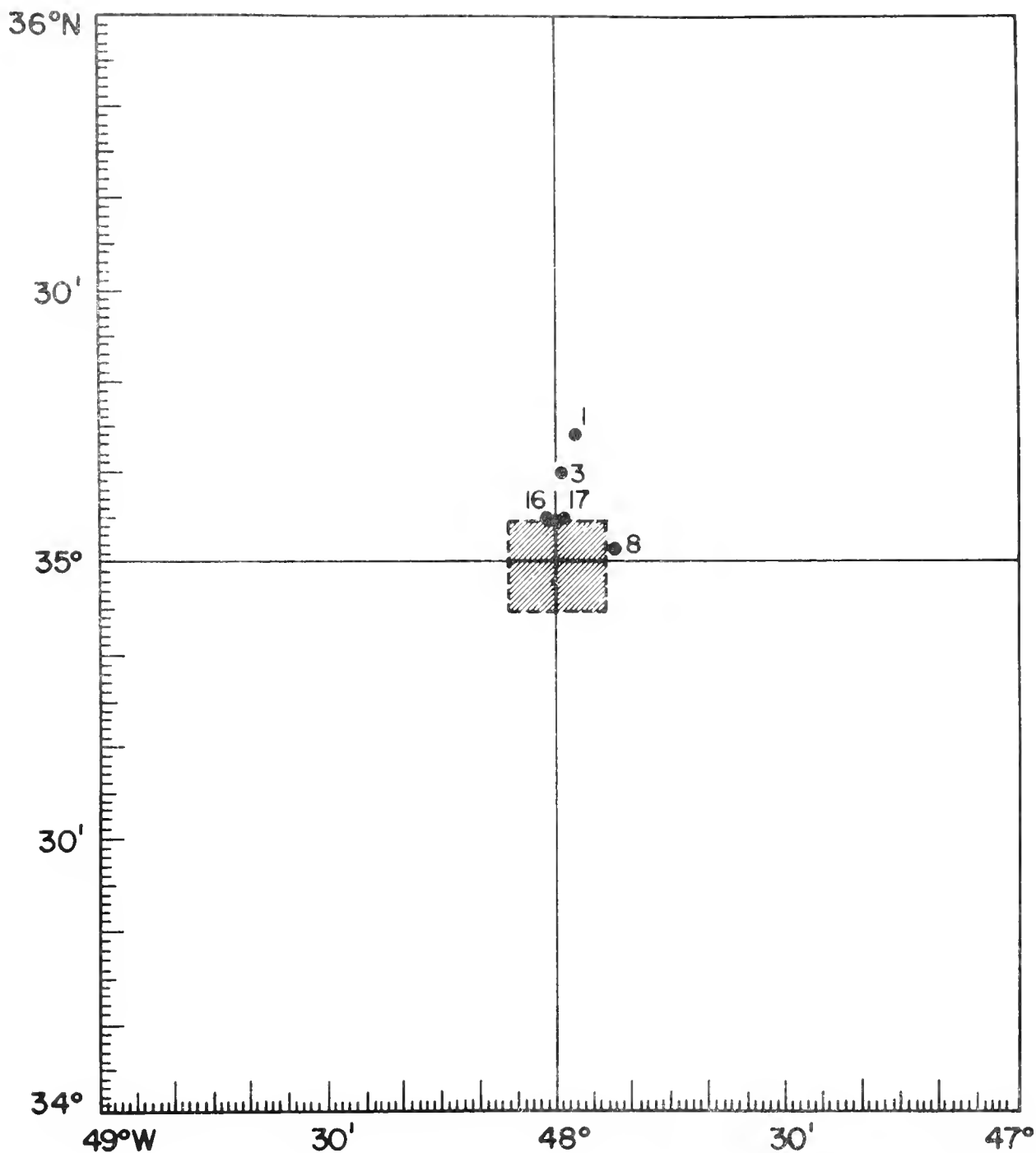


Figure 10. Positions of oceanographic stations taken by CGC CASTLE ROCK during 14 July–4 August 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

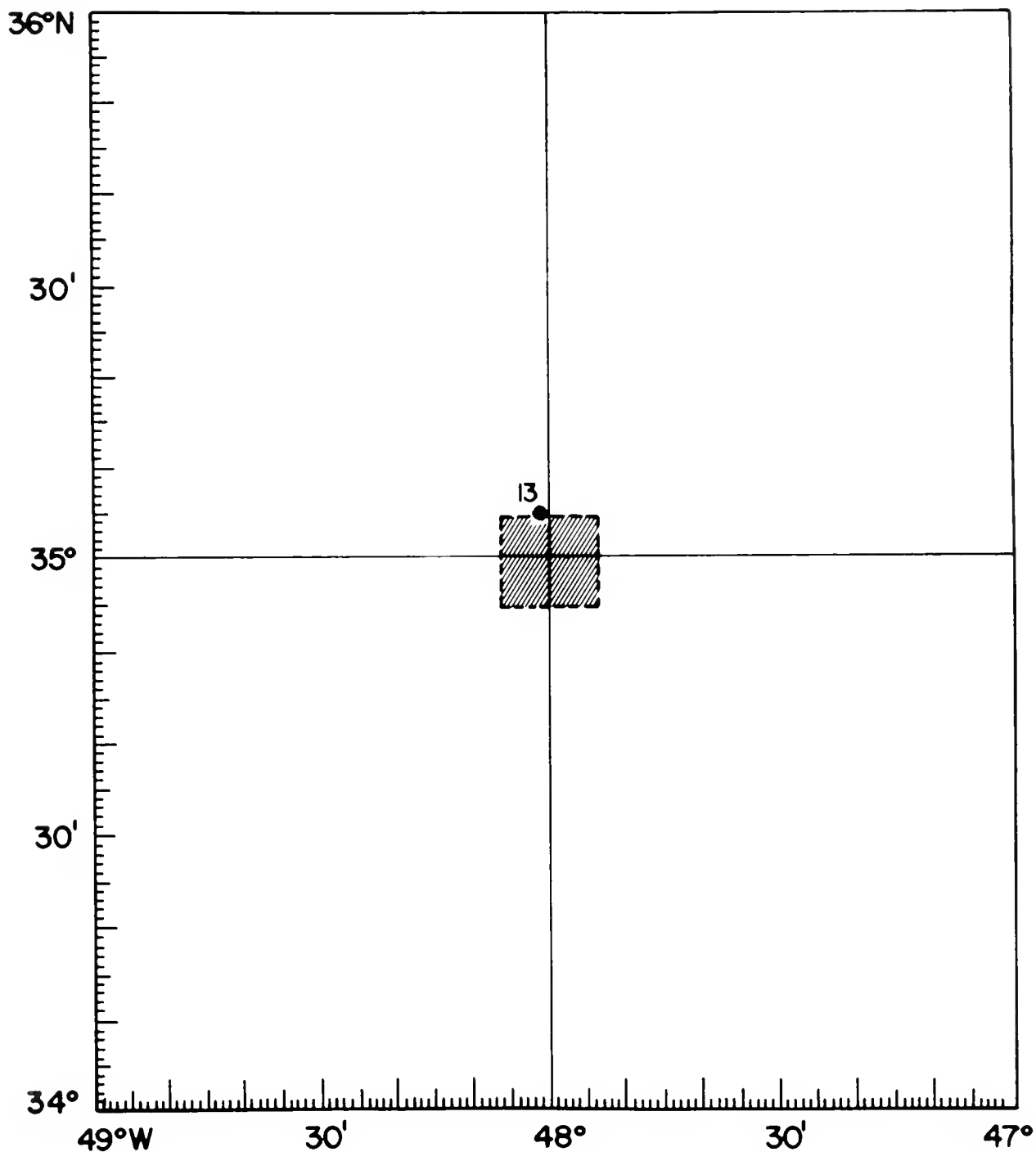


Figure 11. Positions of oceanographic stations taken by CGC SEBAGO during 5–27 August 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

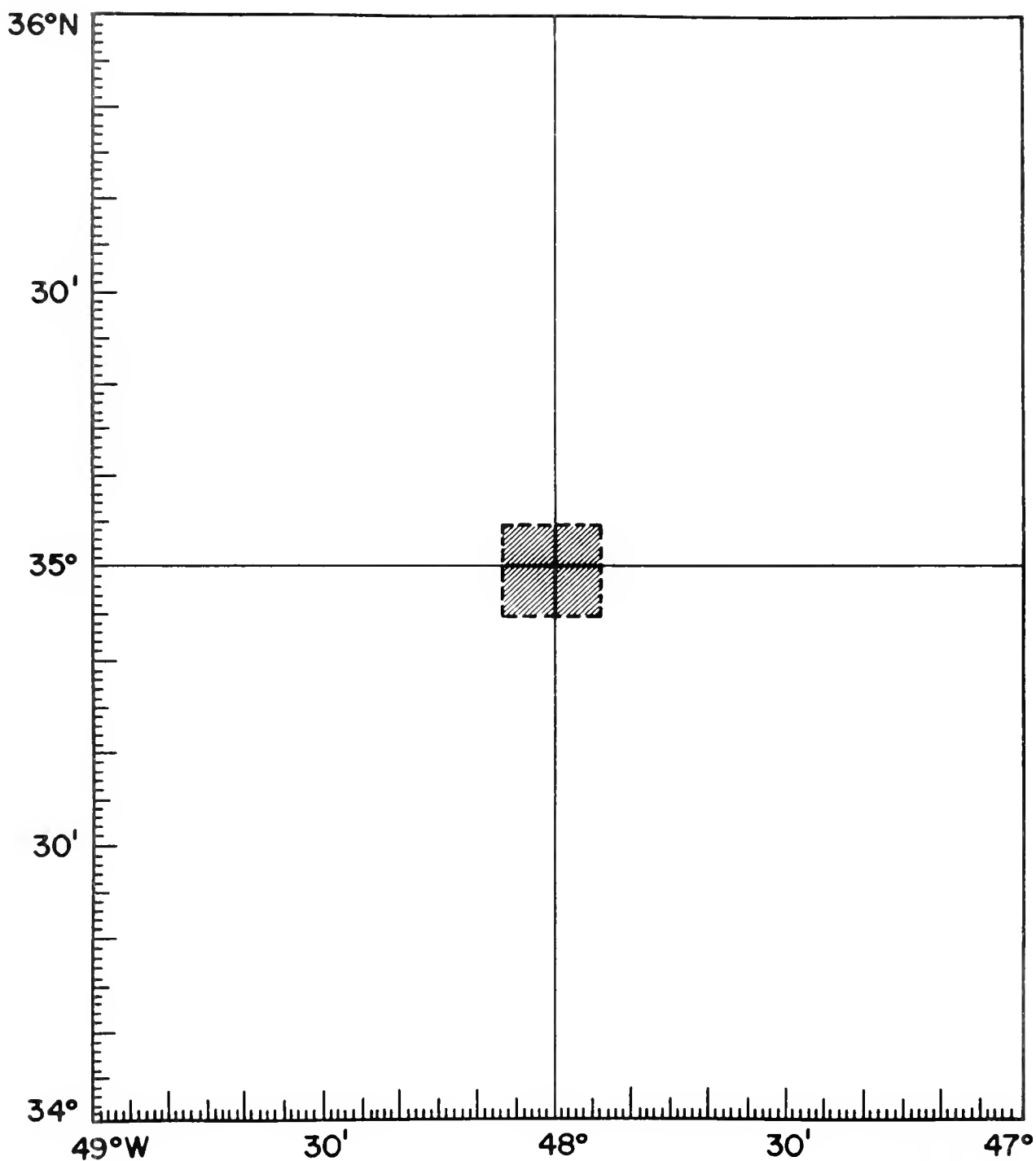


Figure 12. Positions of oceanographic stations taken by CGC CHASE during 1-22 September 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

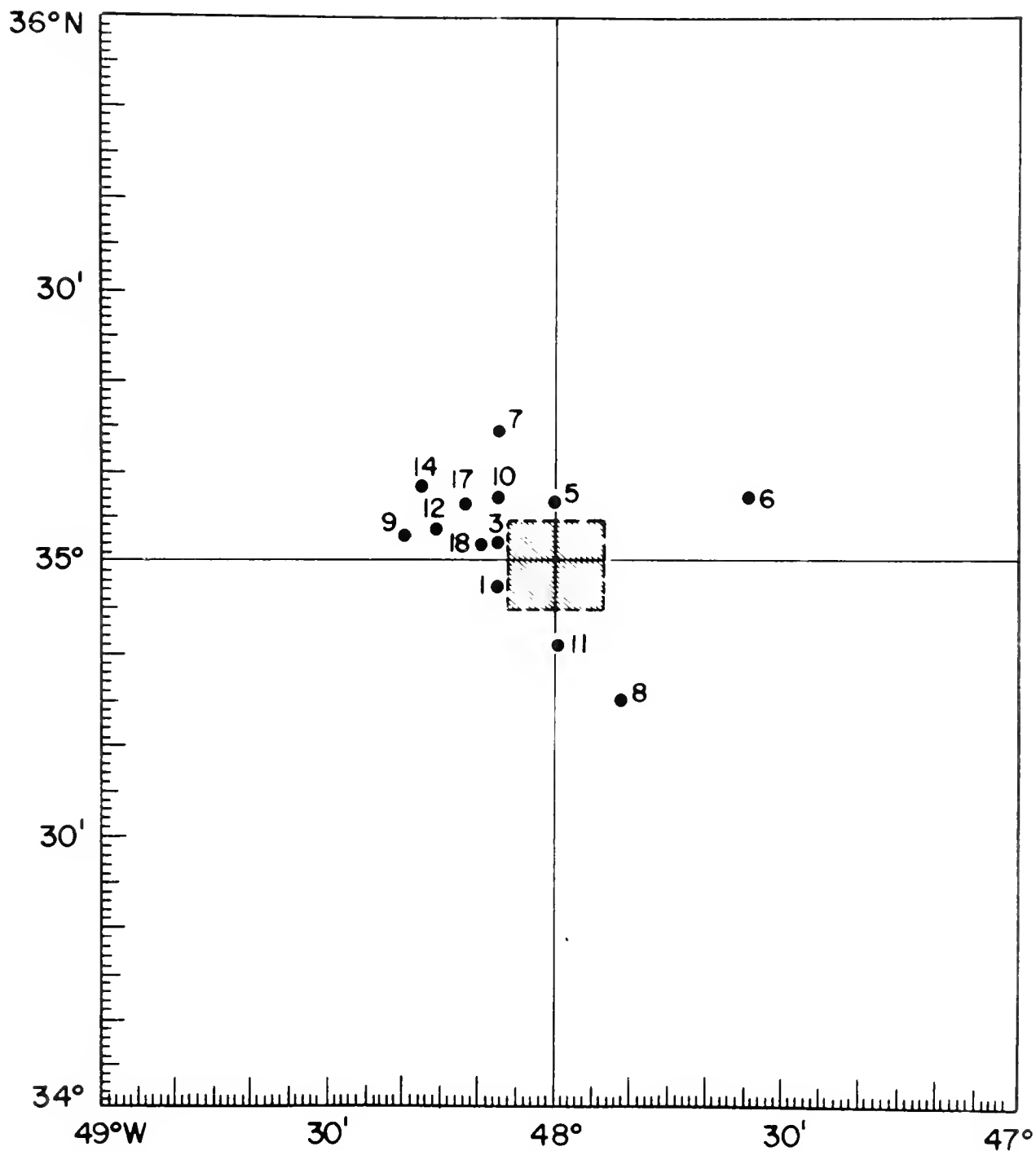


Figure 13. Positions of oceanographic stations taken by CGC DALLAS during 23 September–11 October 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

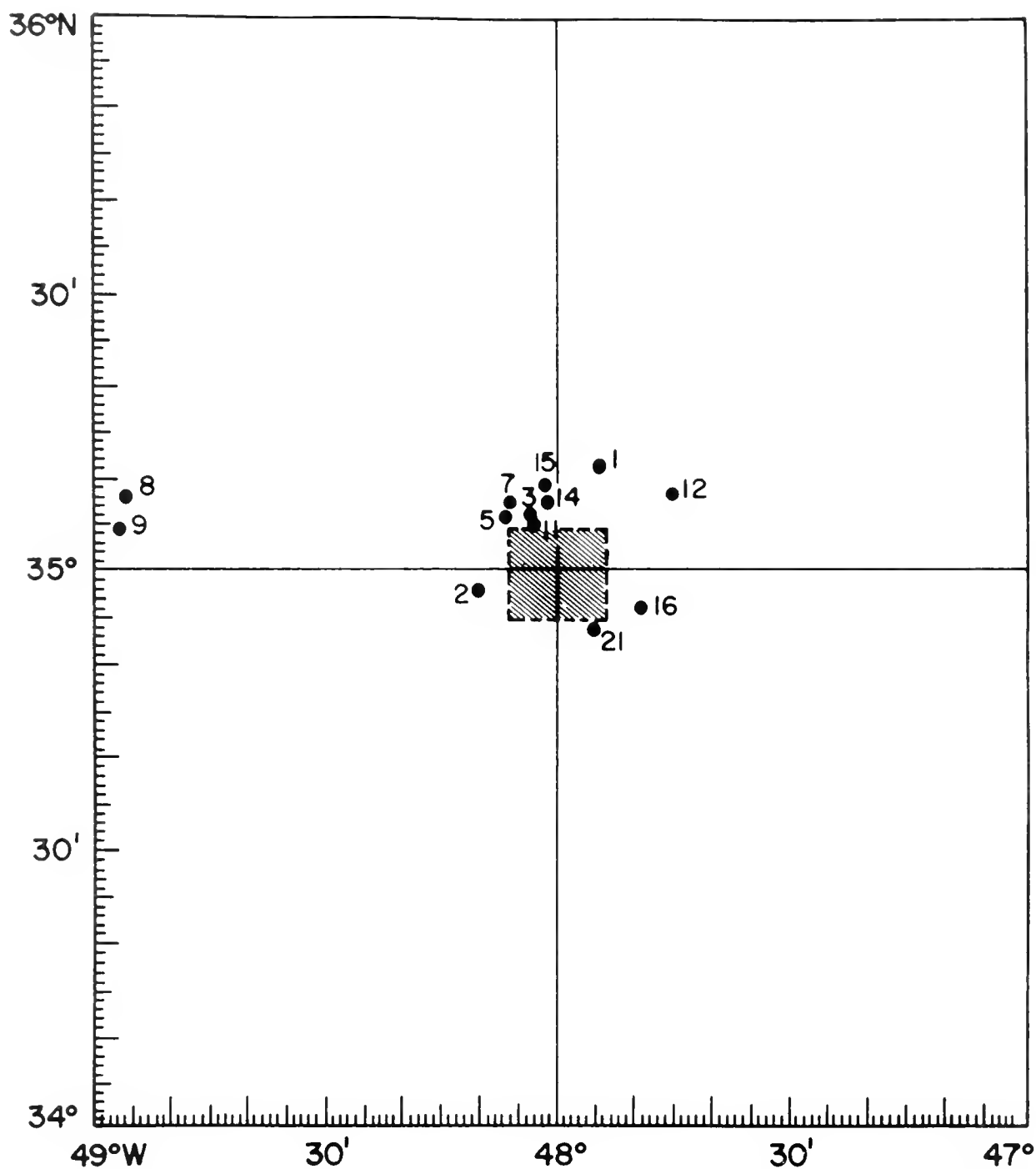


Figure 14. Positions of oceanographic stations taken by CGC YAKUTAT during 12 October–5 November 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

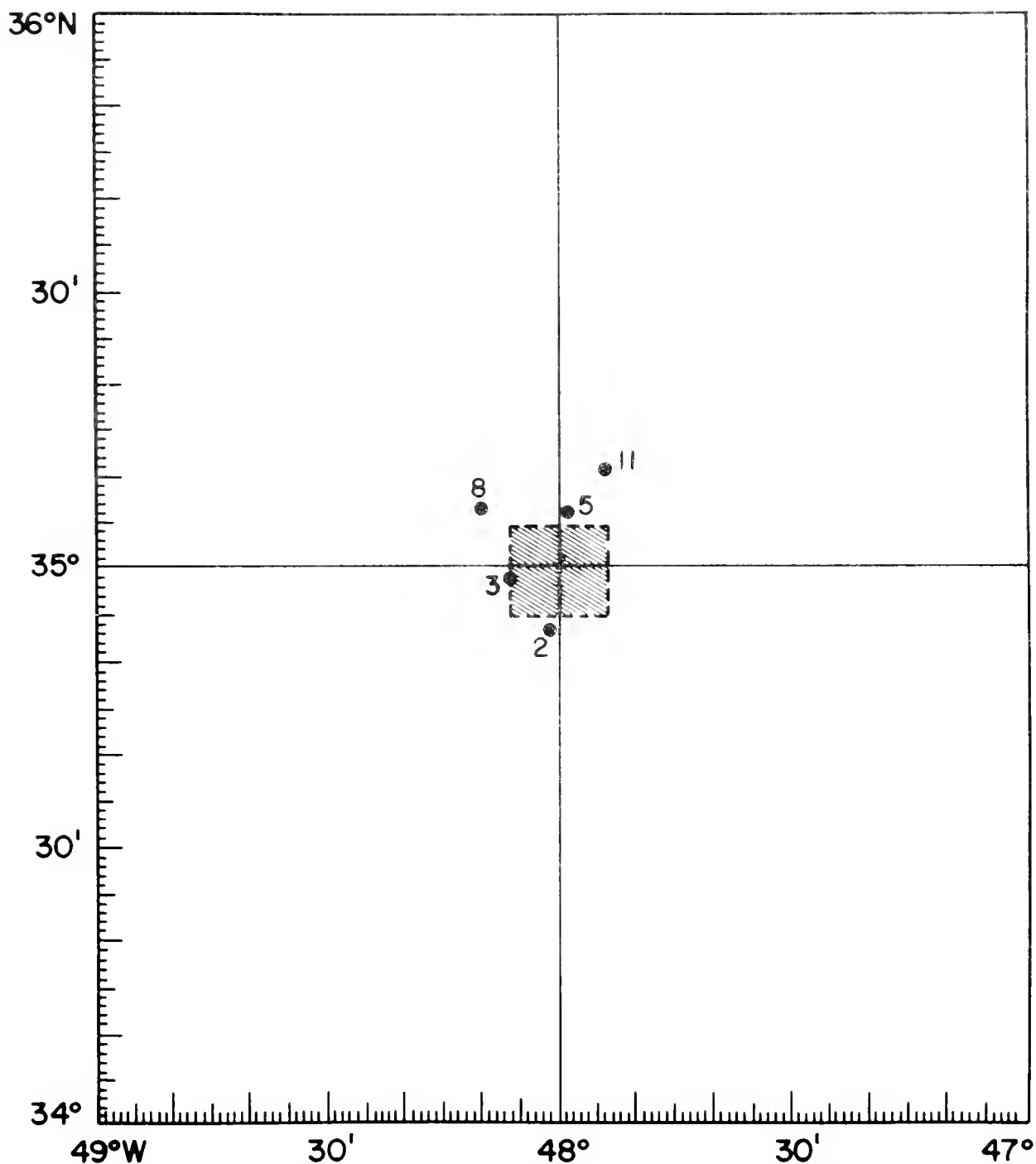


Figure 15. Positions of oceanographic stations taken by CGC MC CULLOCH during 6-25 November 1968. Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

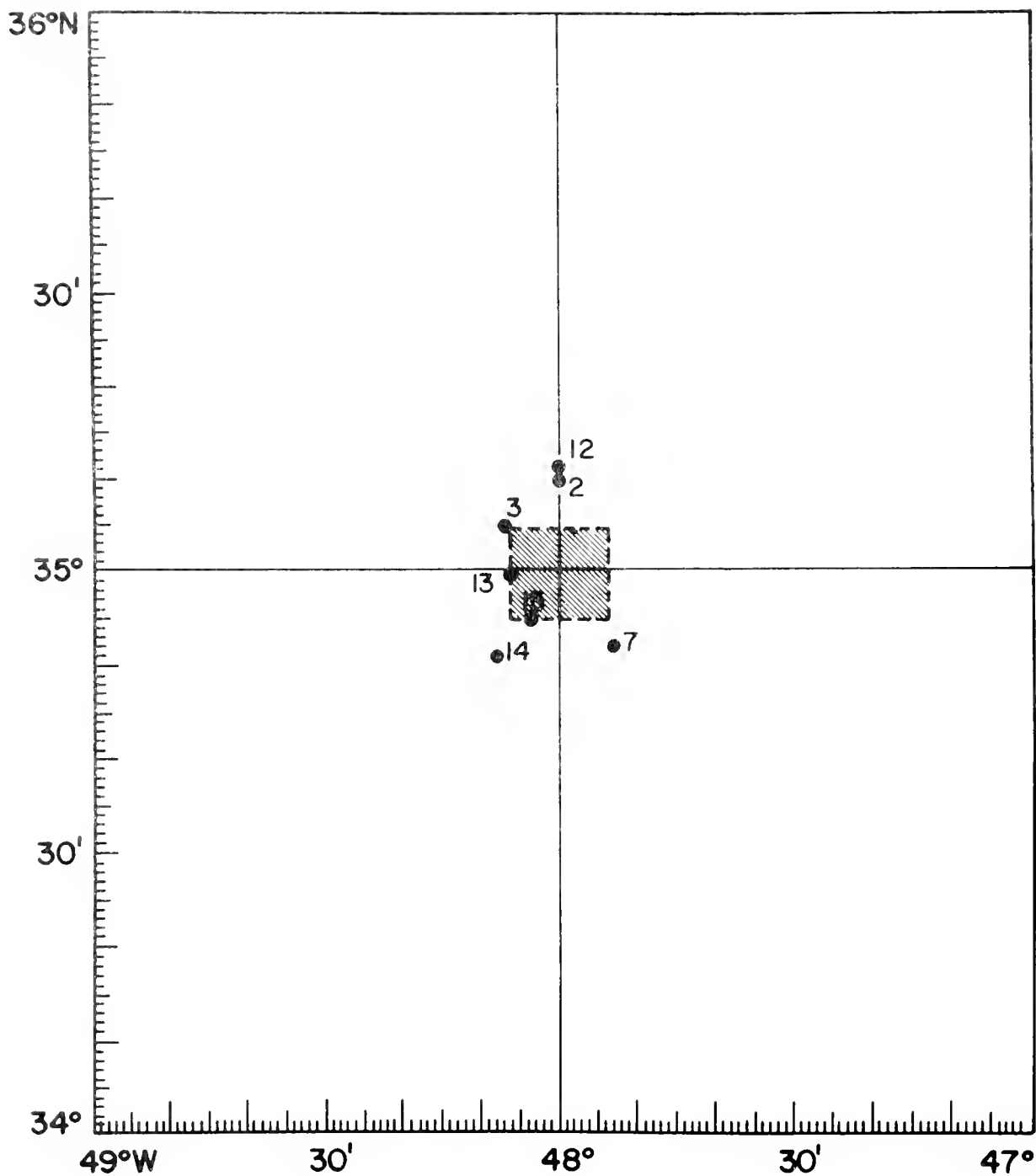


Figure 16. Positions of oceanographic stations taken by CGC BOUTWELL during 30 November–5 December 1968.
Stations taken inside the 10-mile-square central grid (shaded area) are not shown.

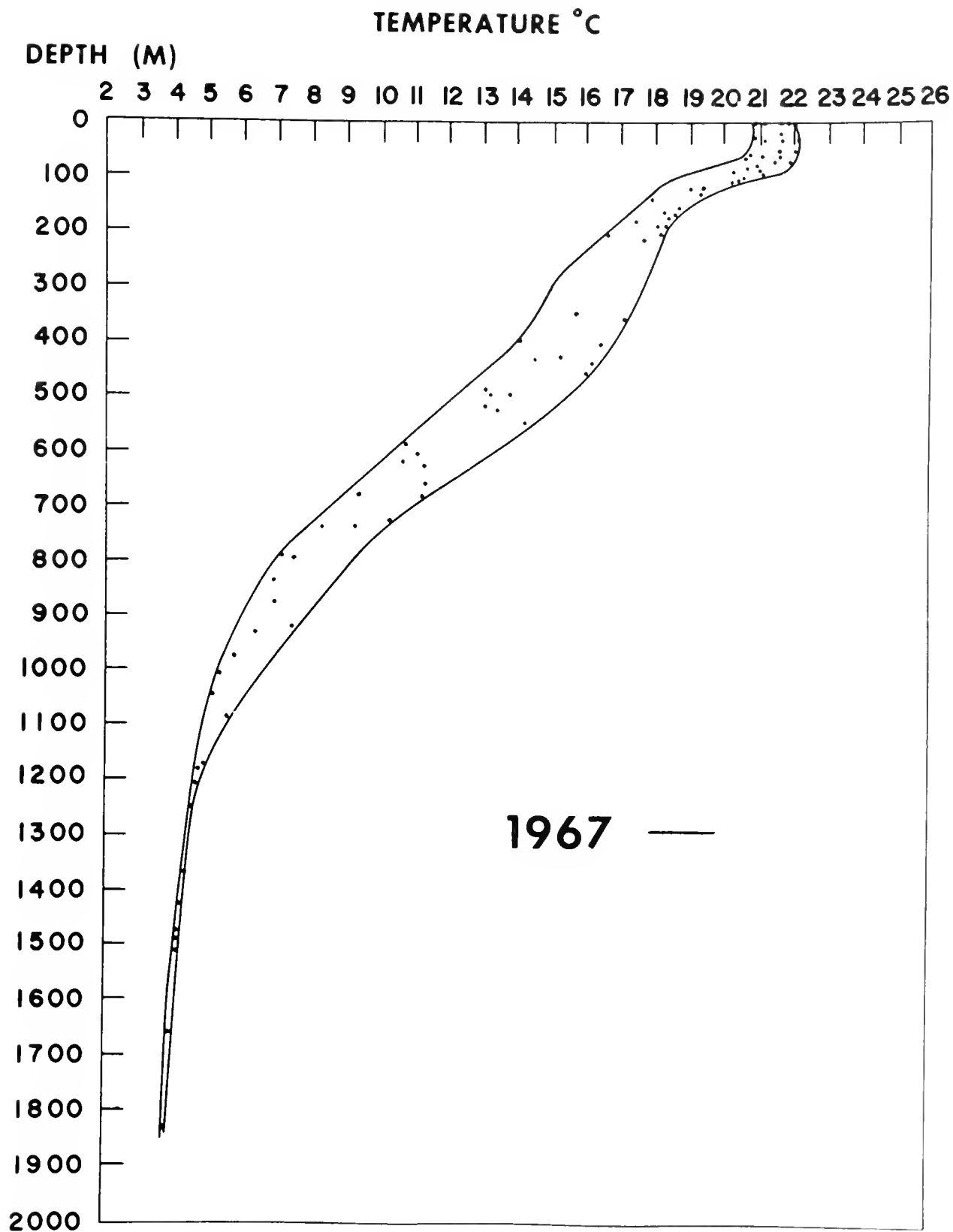


Figure 17. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC CASTLE ROCK at Ocean Station ECHO, 28 November–11 December 1967.

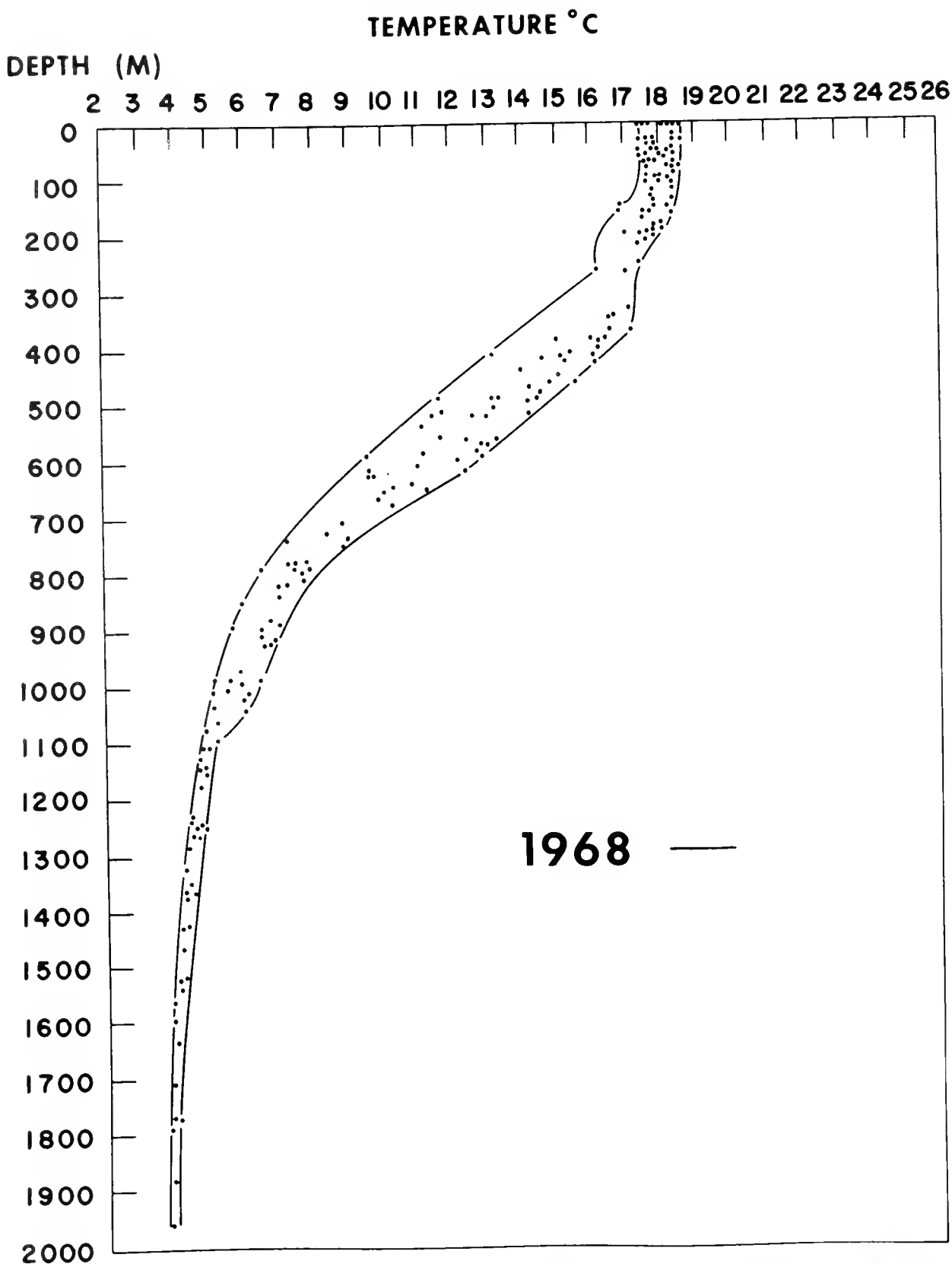


Figure 18. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC HUMBOLDT at Ocean Station ECHO, 10 January–1 February 1968.

TEMPERATURE °C

DEPTH (M)

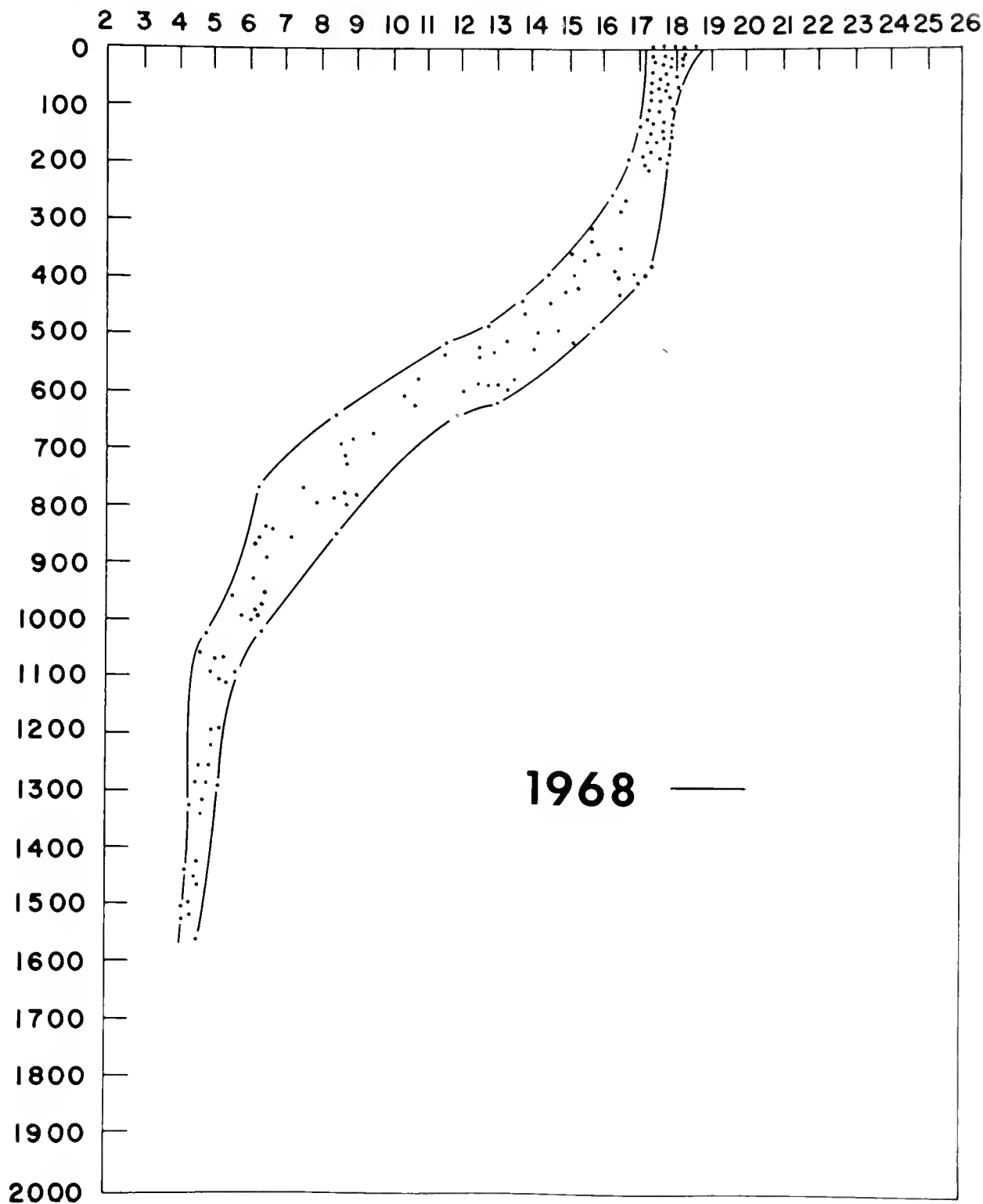


Figure 19. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC ESCANABA at Ocean Station ECHO, 29 February–19 March 1968.

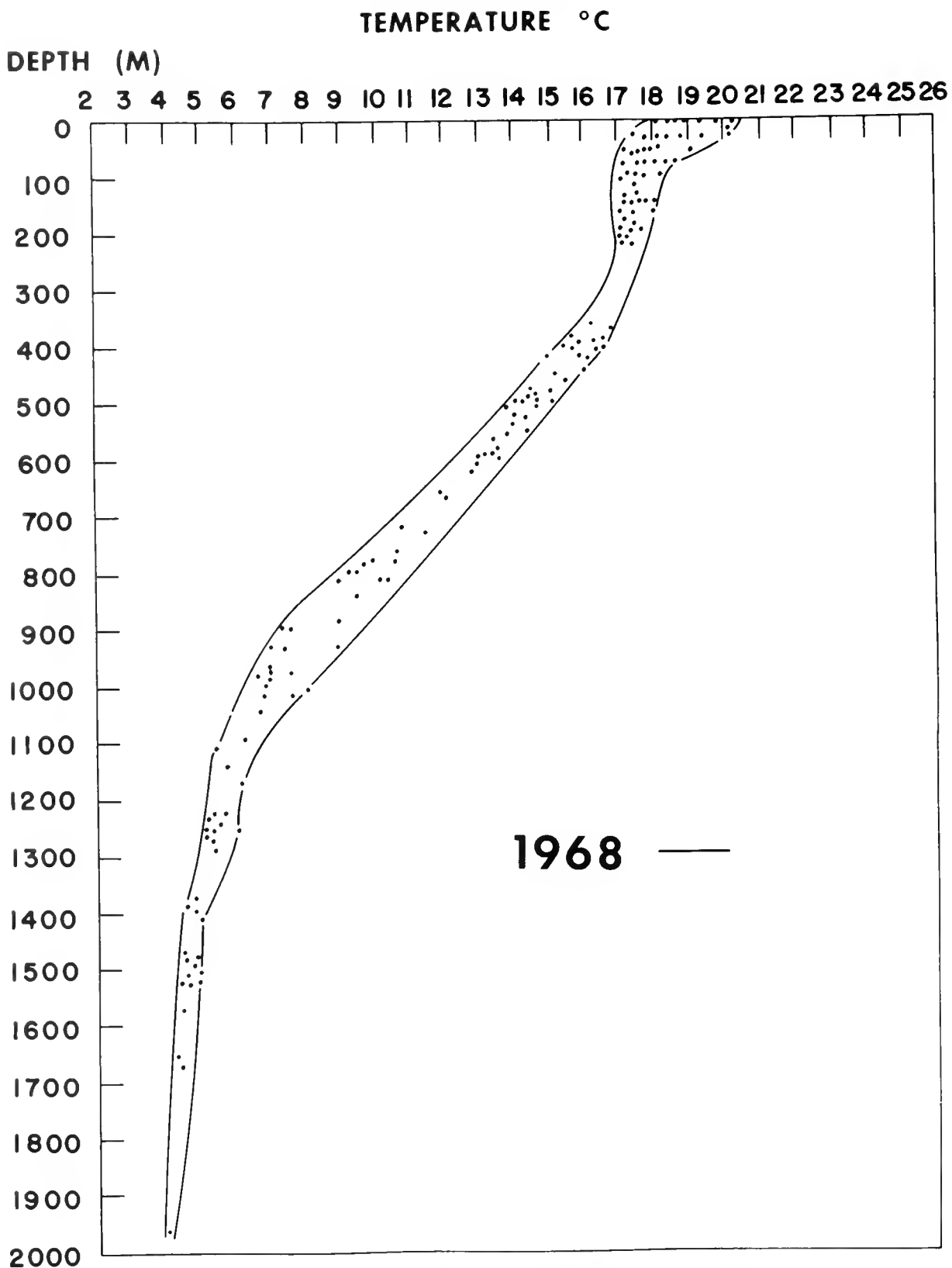


Figure 20. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC MENDOTA at Ocean Station ECHO, 12 April–4 May 1968.

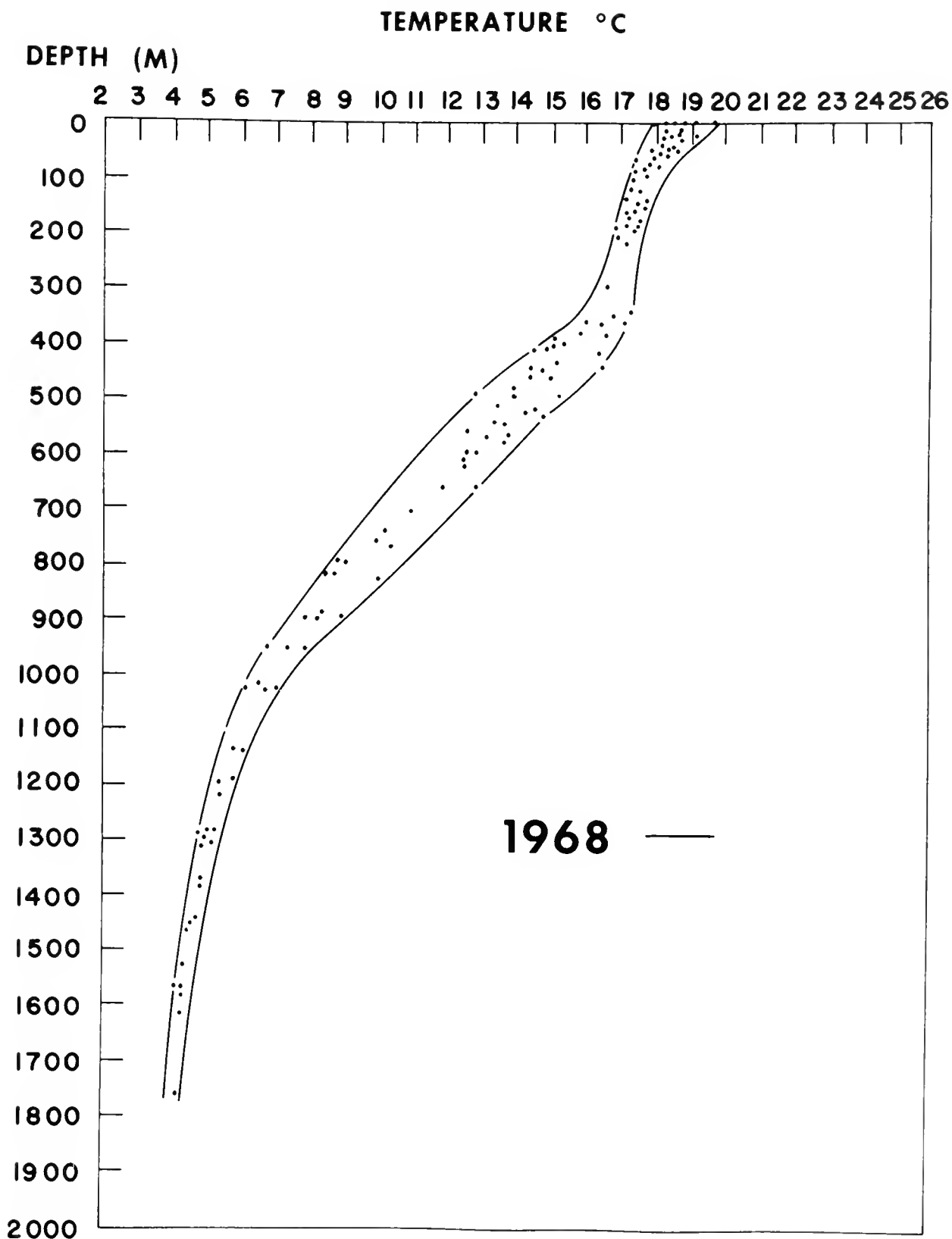


Figure 21. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC CASCO at Ocean Station ECHO, 5-27 May 1968.

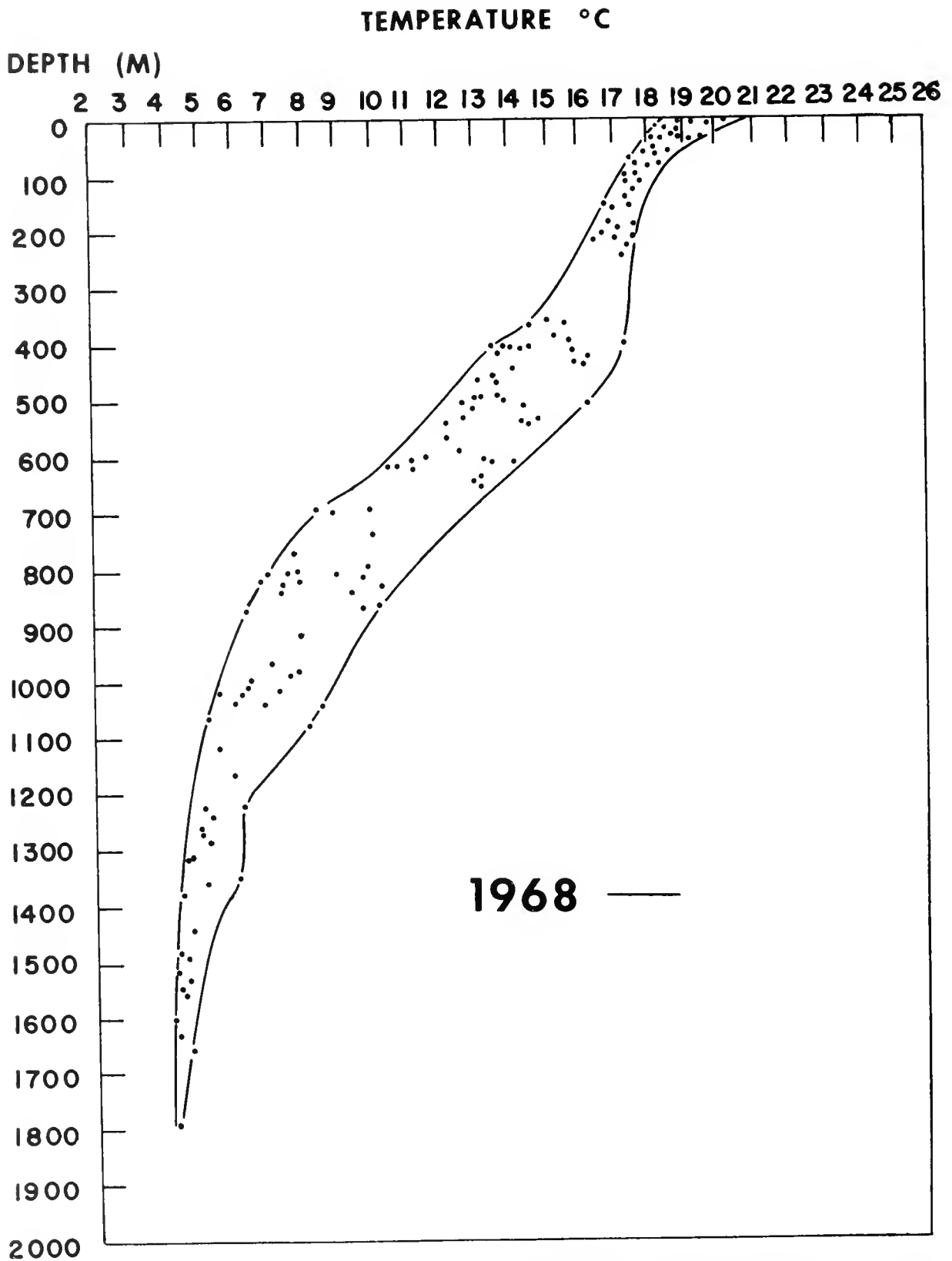


Figure 22. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC SEBAGO at Ocean Station ECHO, 28 May-19 June 1968.

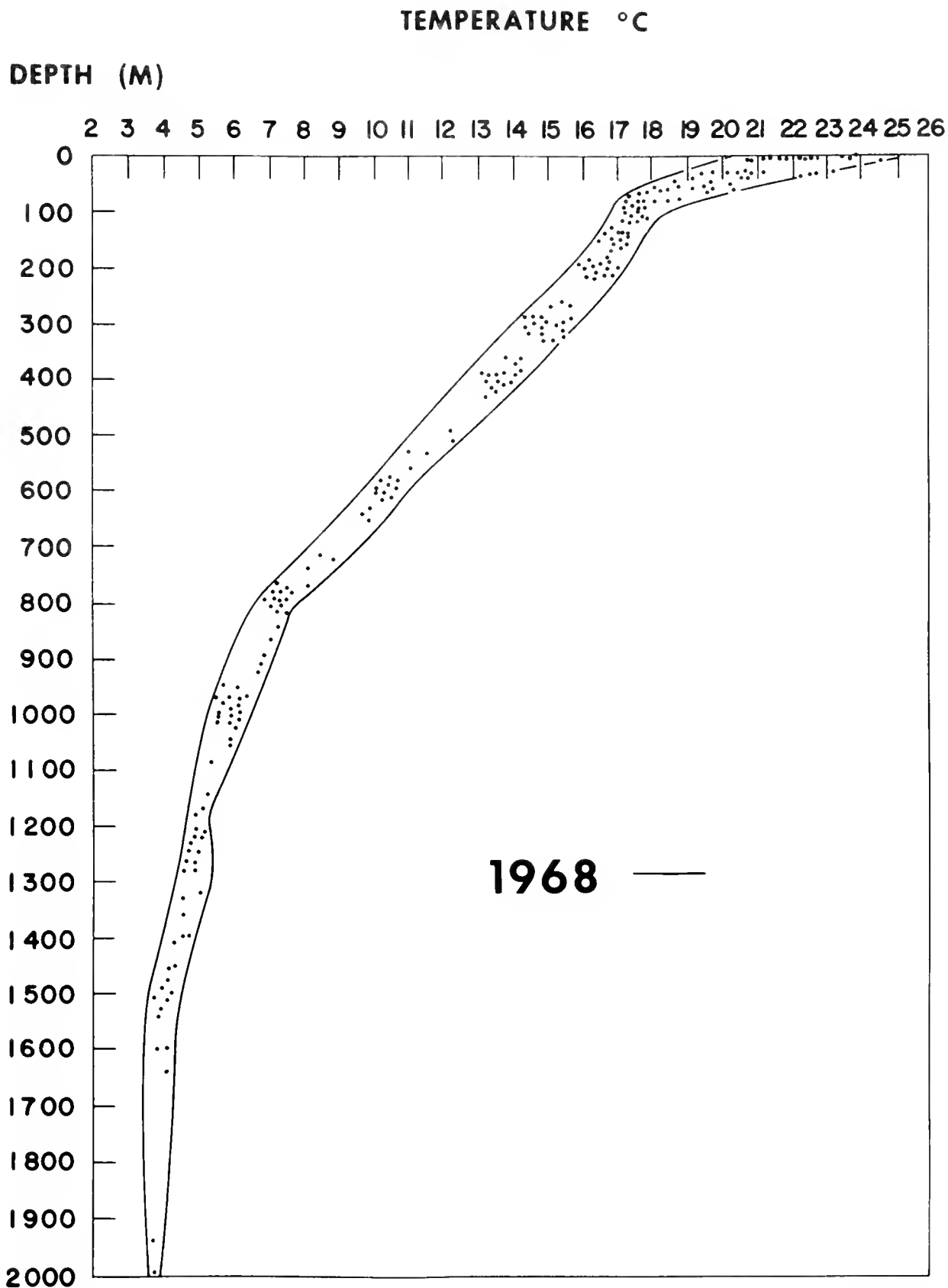


Figure 23. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC HALF MOON at Ocean Station ECHO, 20 June–12 July 1968.

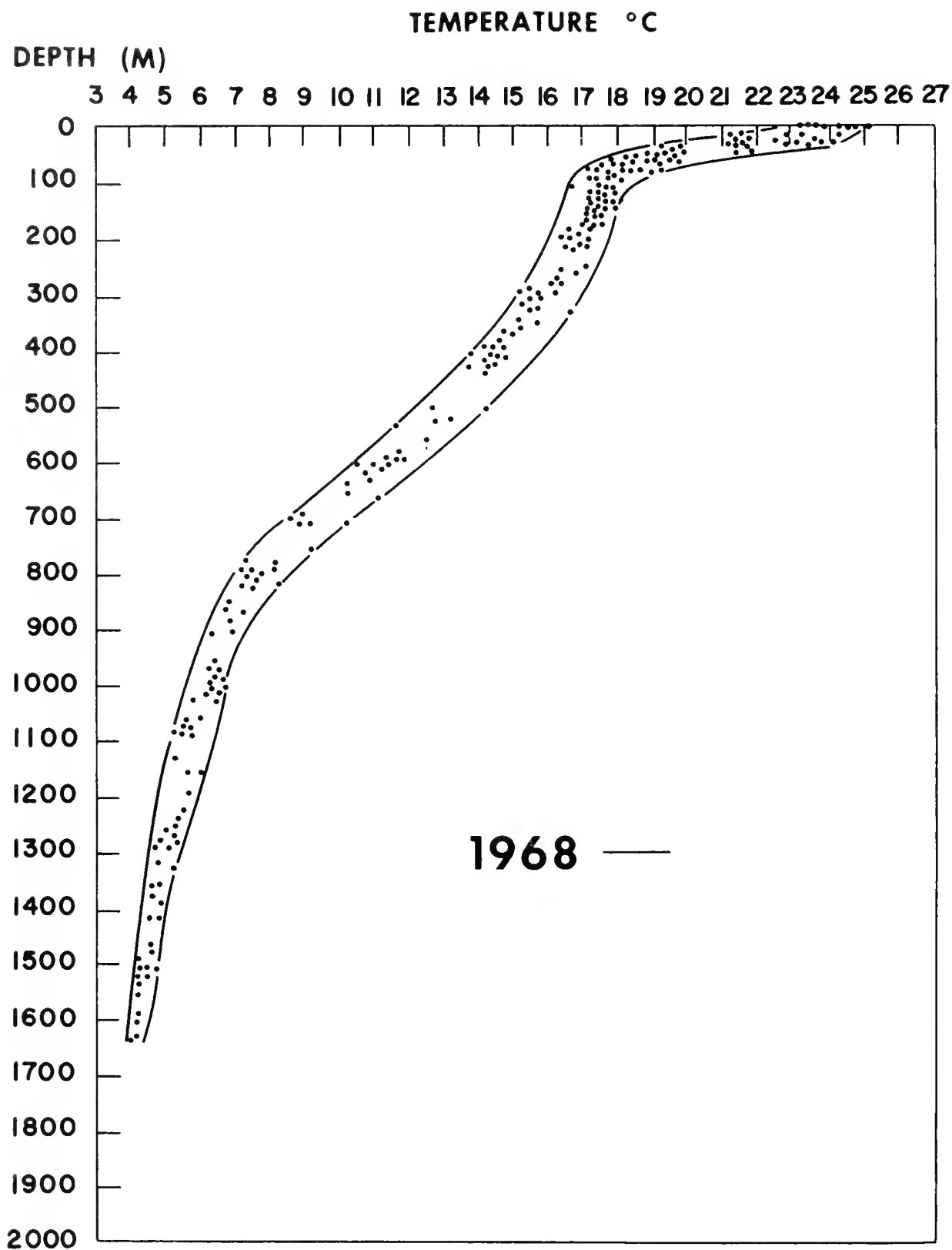


Figure 24. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC CASTLE ROCK at Ocean Station ECHO, 14 July–4 August 1968.

TEMPERATURE °C

DEPTH (M)

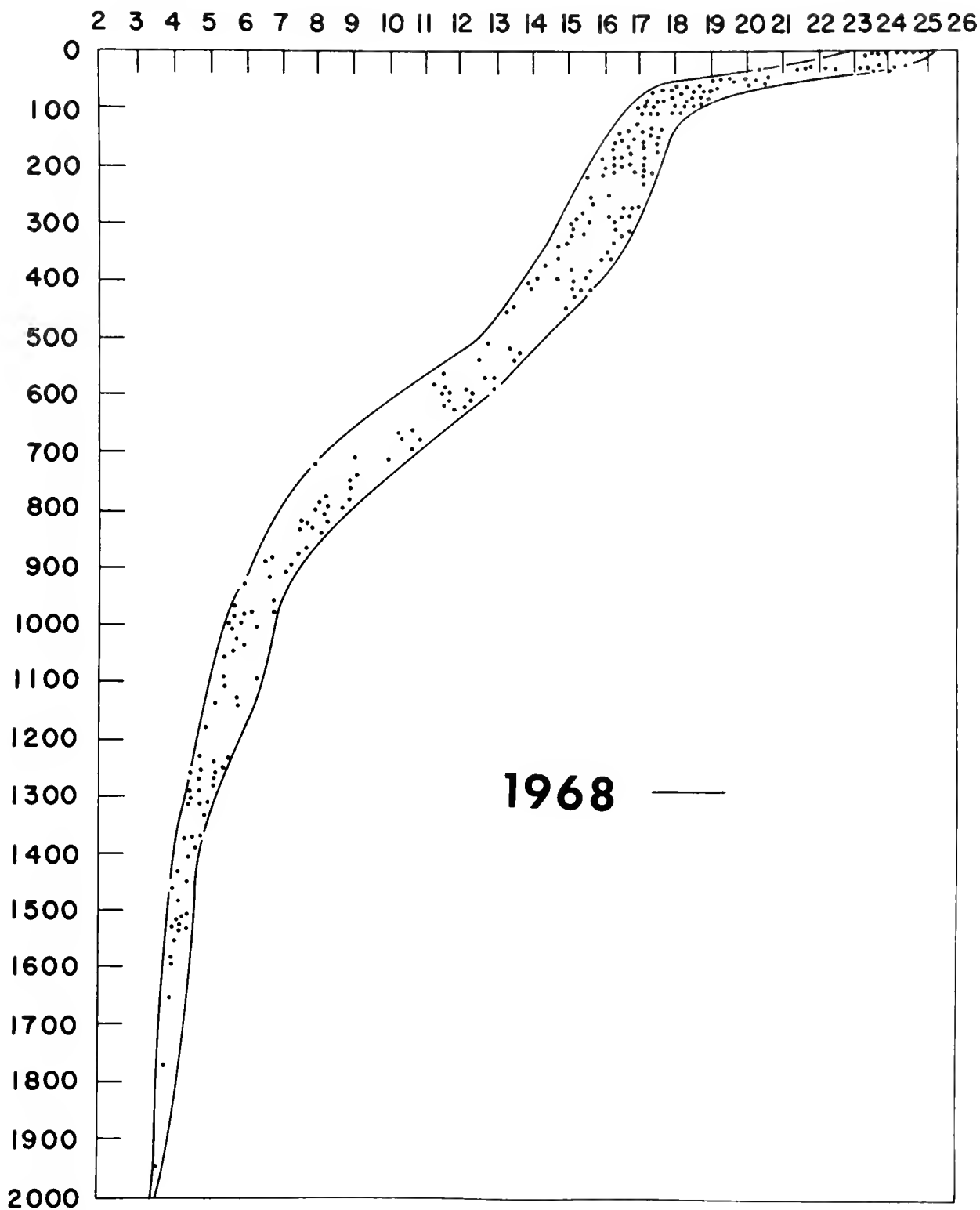


Figure 25. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC SEBAGO at Ocean Station ECHO, 5-27 August 1968.

TEMPERATURE °C

DEPTH (M)

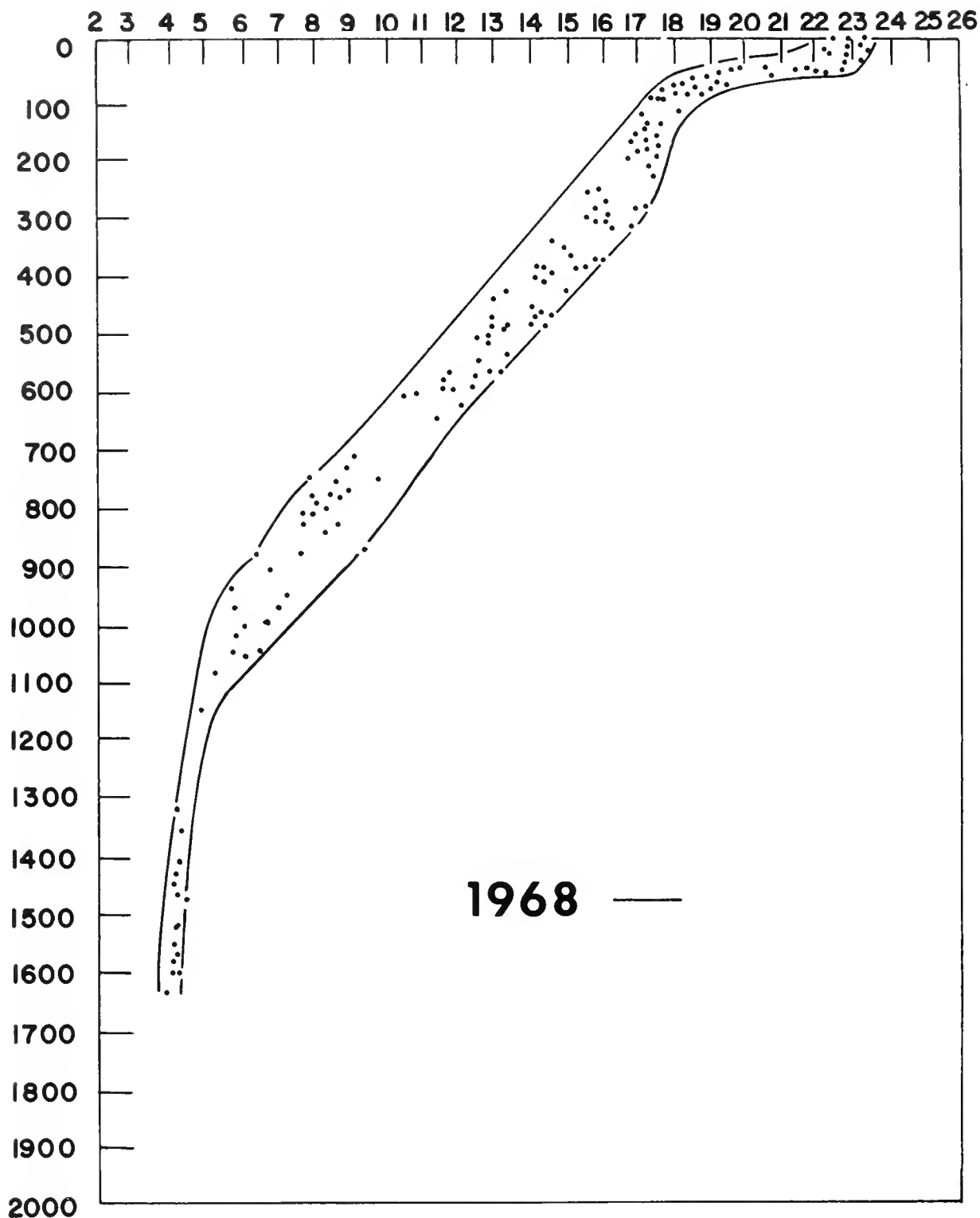


Figure 26. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC DALLAS at Ocean Station ECHO, 23 September–11 October 1968.

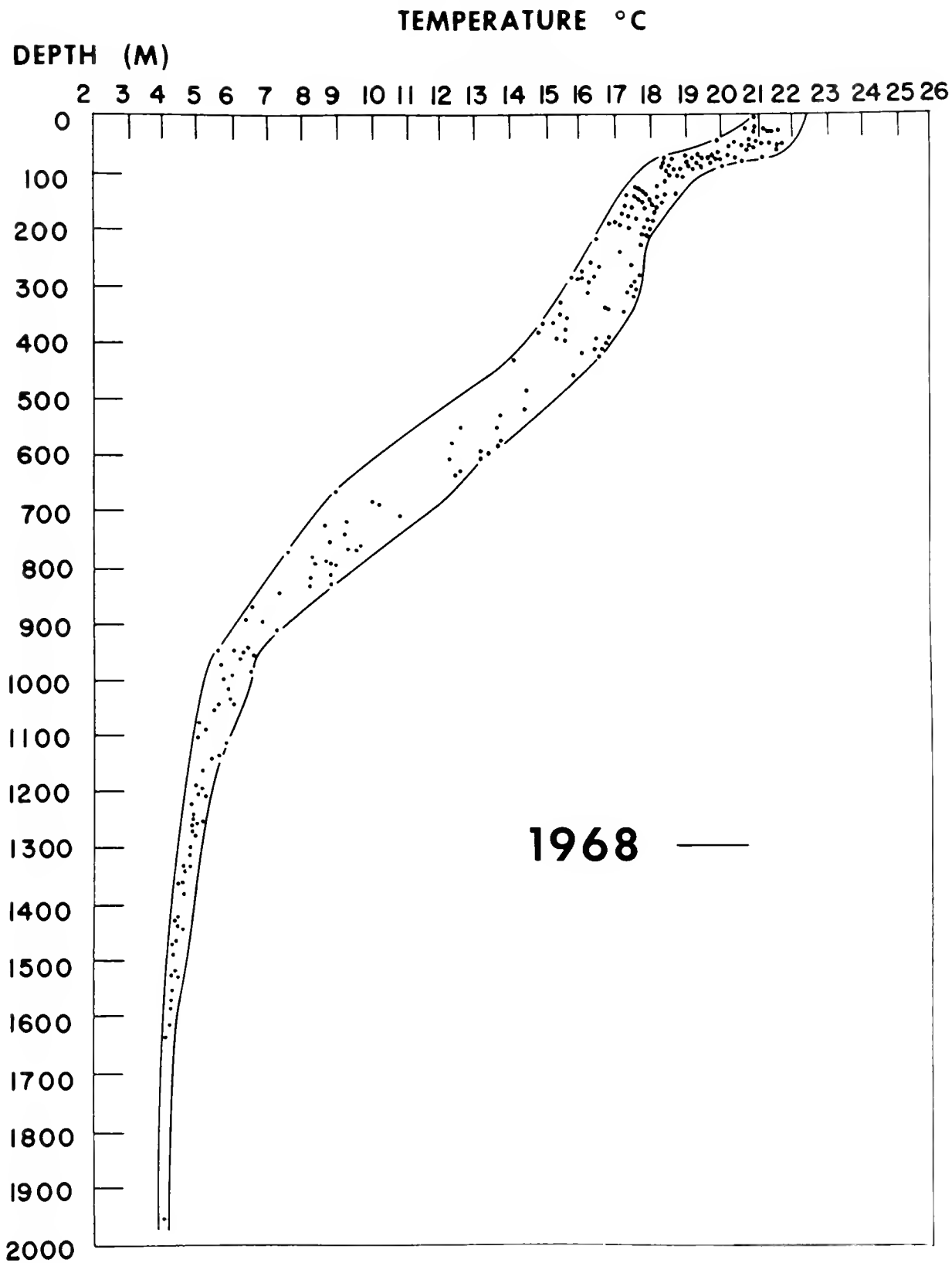


Figure 27. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC YAKUTAT at Ocean Station ECHO, 12 October–5 November 1968.

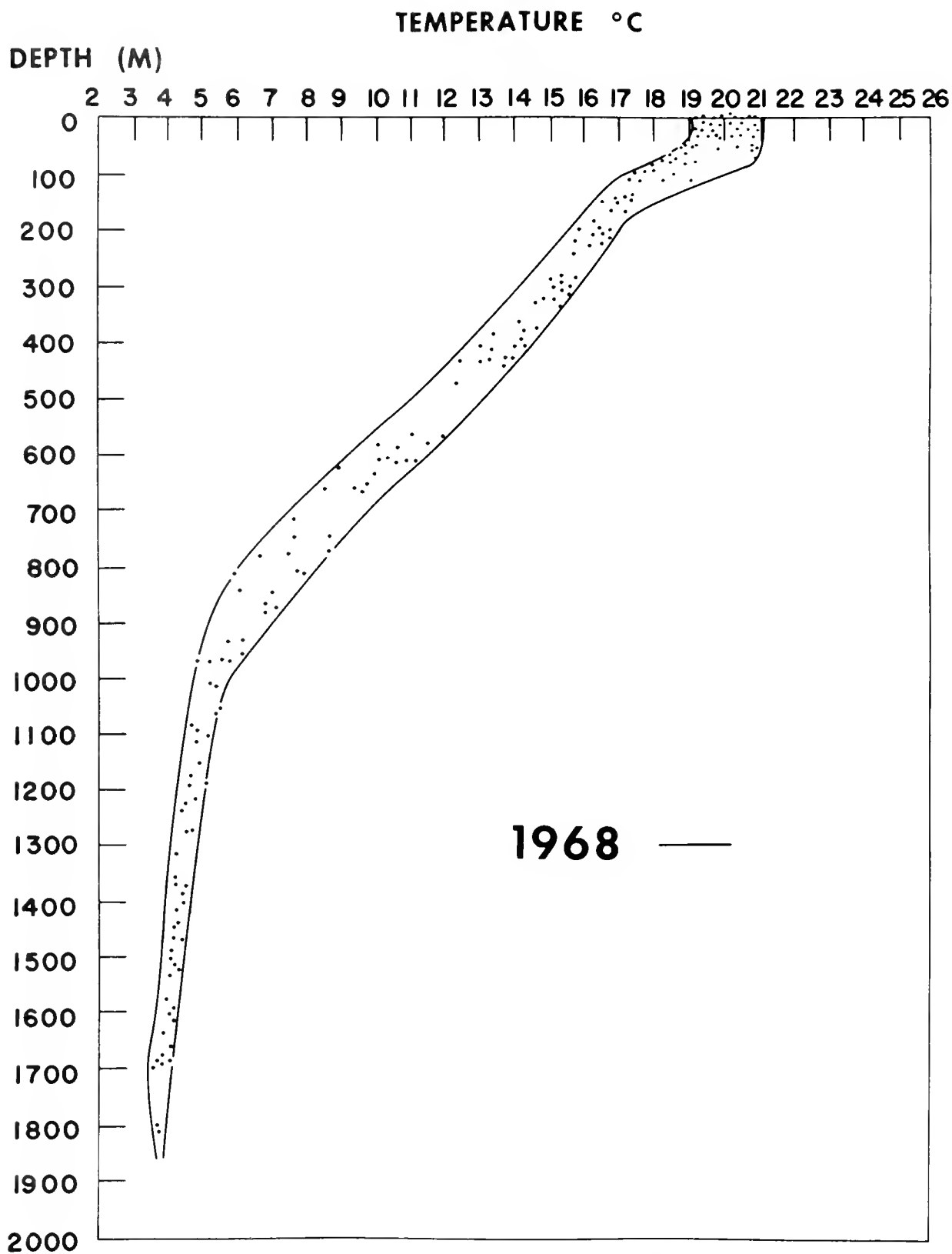


Figure 28. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC MC CULLOCH at Ocean Station ECHO, 6-25 November 1968.

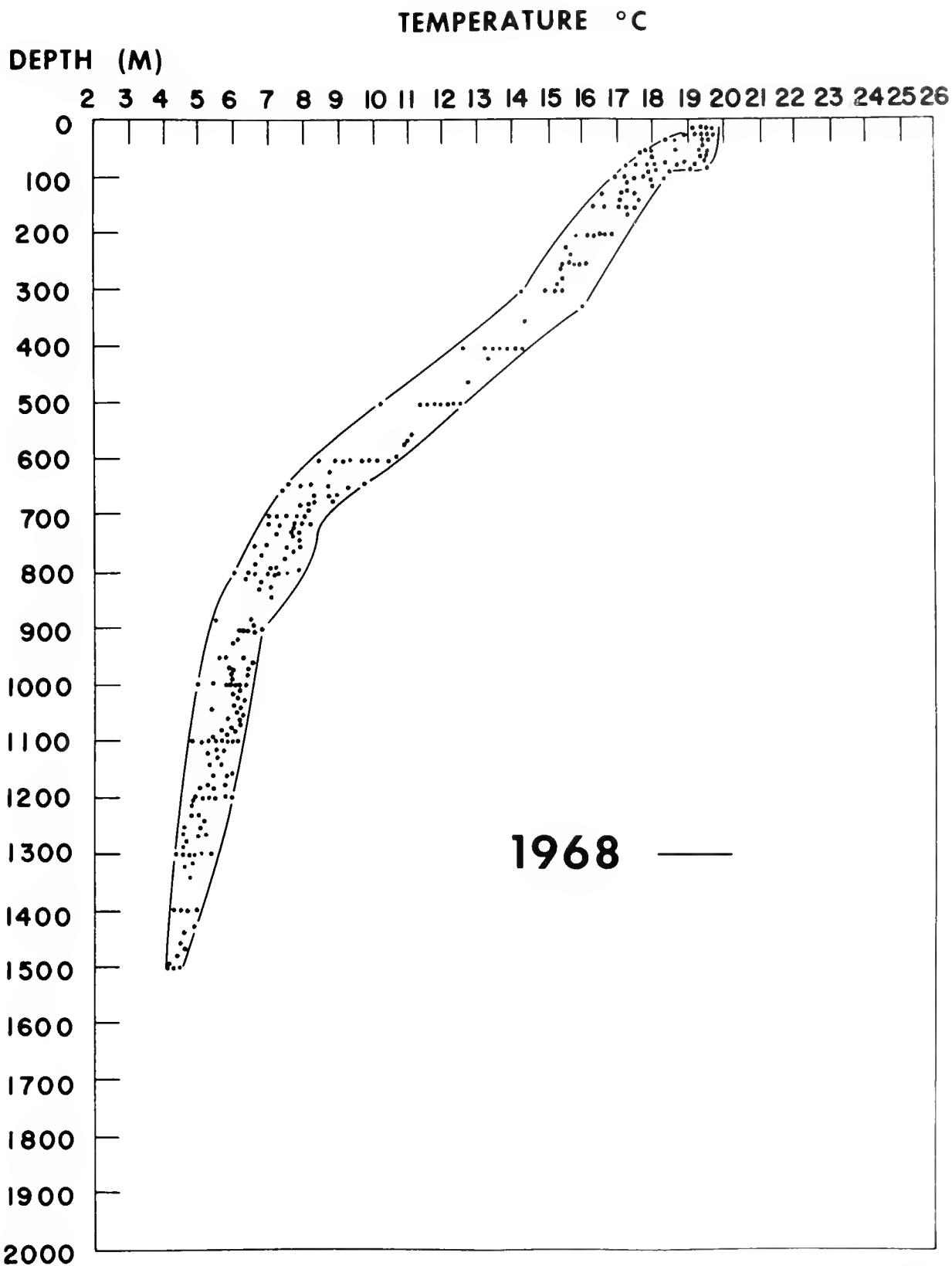


Figure 29. Envelope of temperature (°C) versus depth (m) at oceanographic stations taken by CGC BOUTWELL at Ocean Station ECHO, 30 November–5 December 1968.

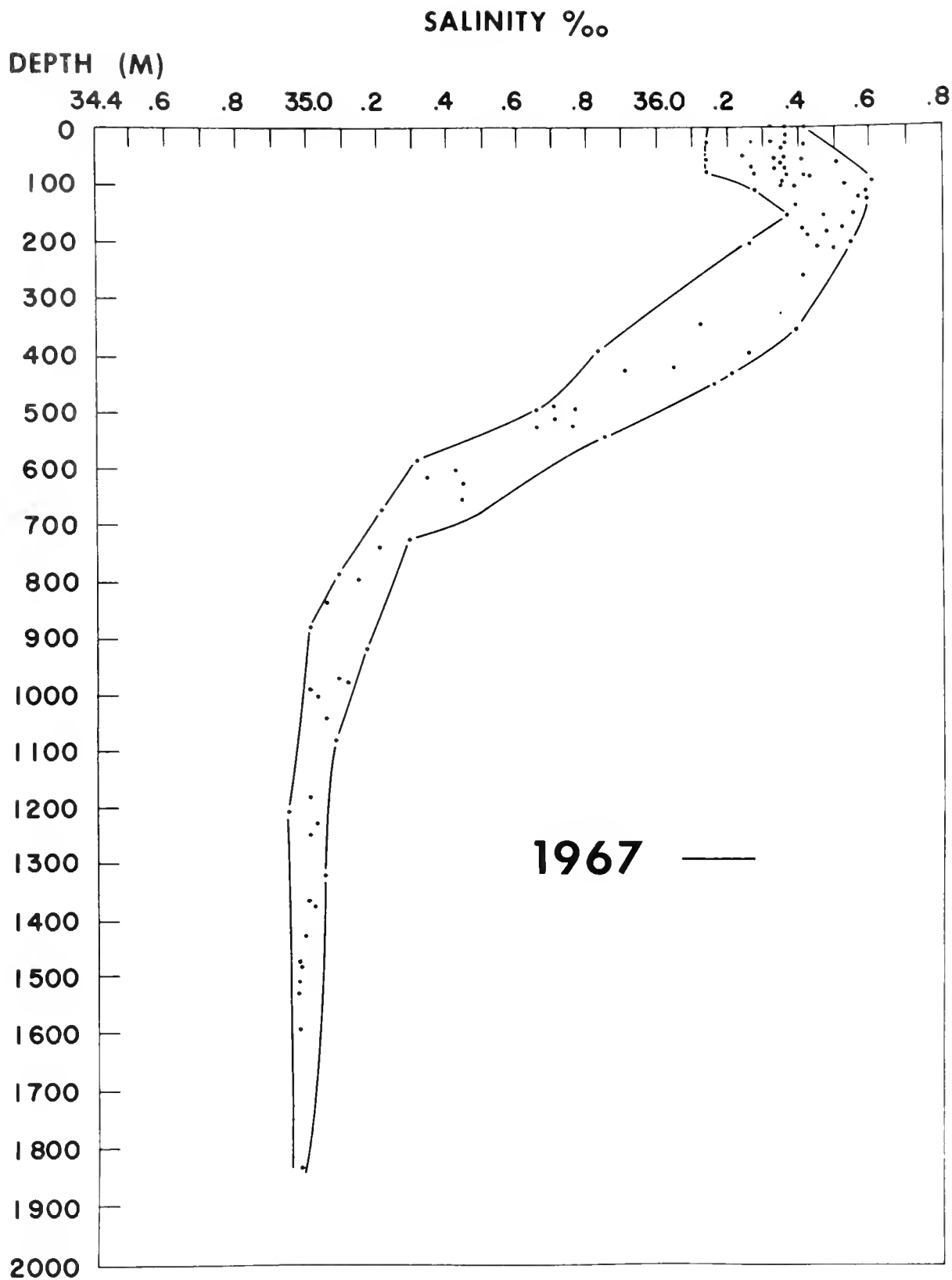


Figure 30. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC CASTLE ROCK at Ocean Station ECHO, 28 November–11 December 1967.

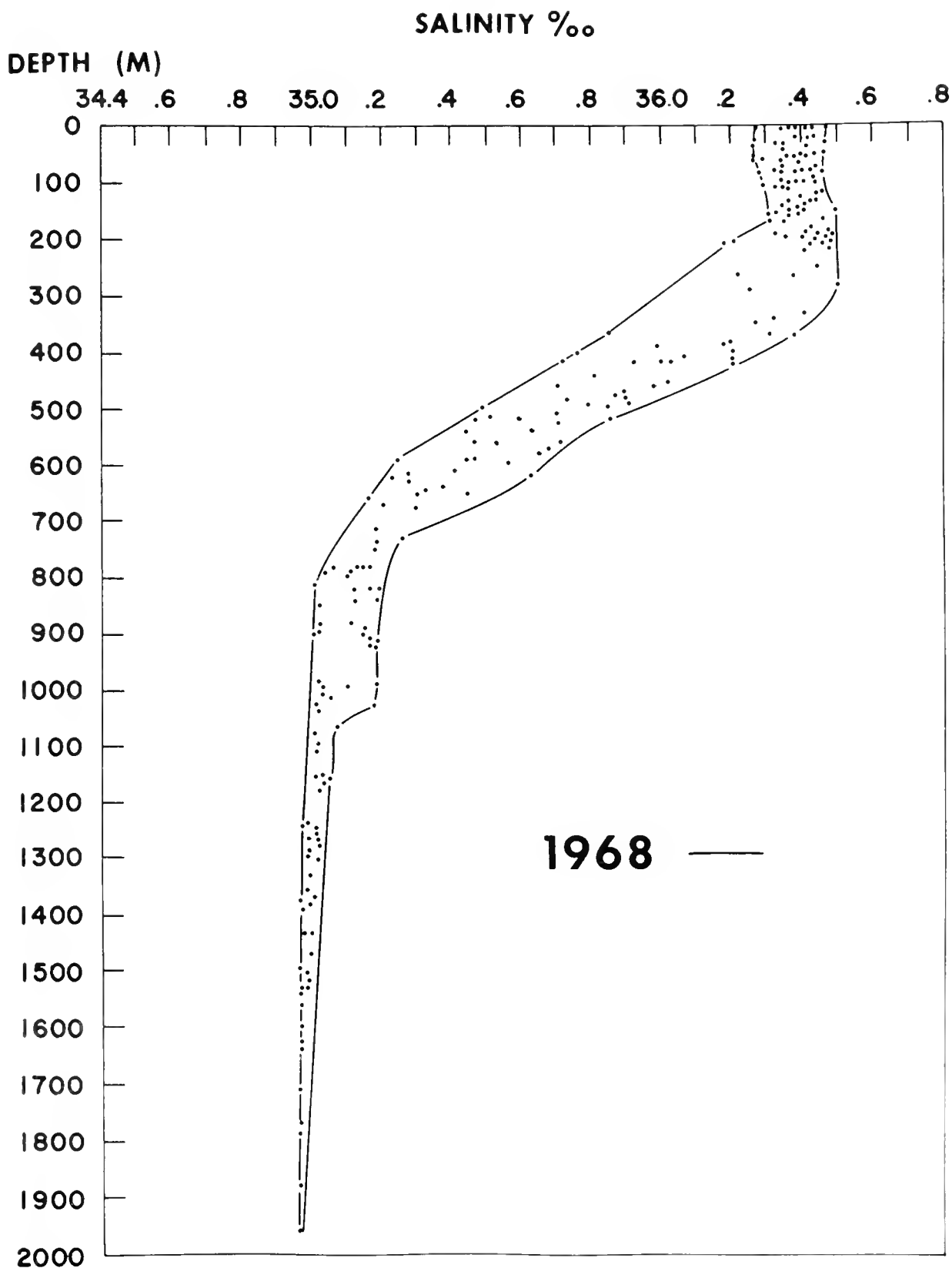


Figure 31. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC HUMBOLDT at Ocean Station ECHO, 10 January–1 February 1968.

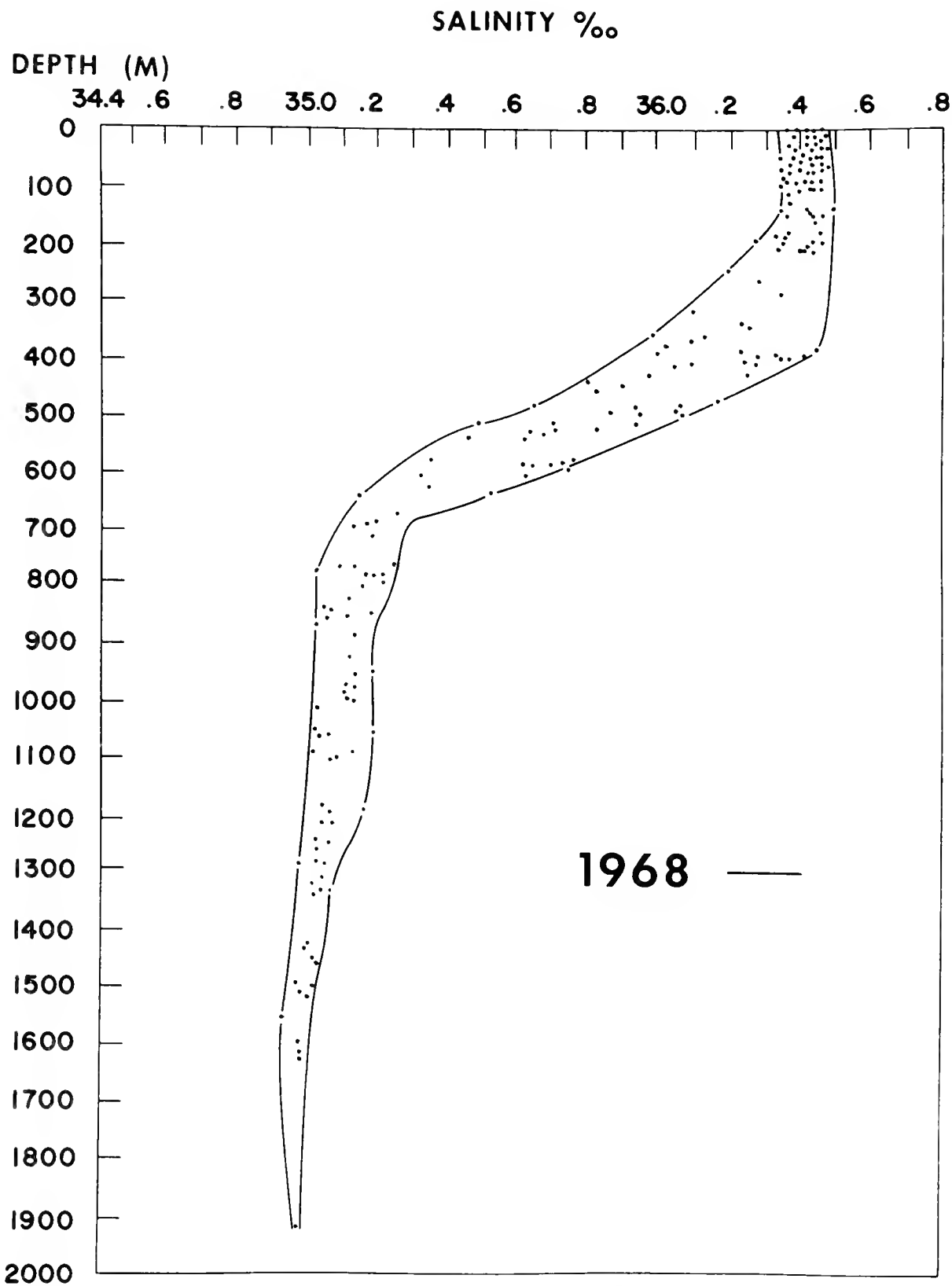


Figure 32. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC ESCANABA at Ocean Station ECHO, 29 February–19 March 1968.

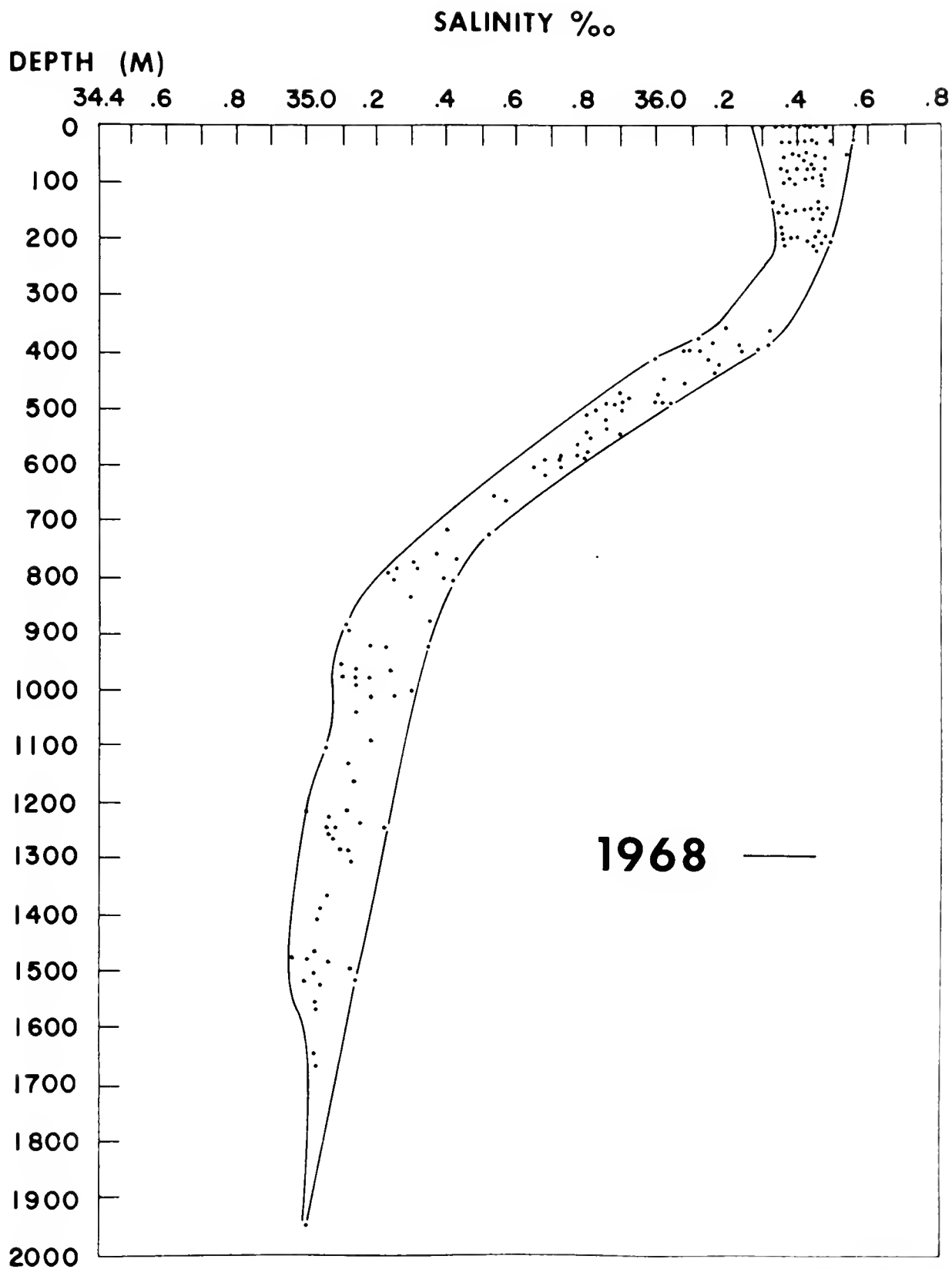


Figure 33. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC MENDOTA at Ocean Station ECHO, 12 April-4 May 1968.

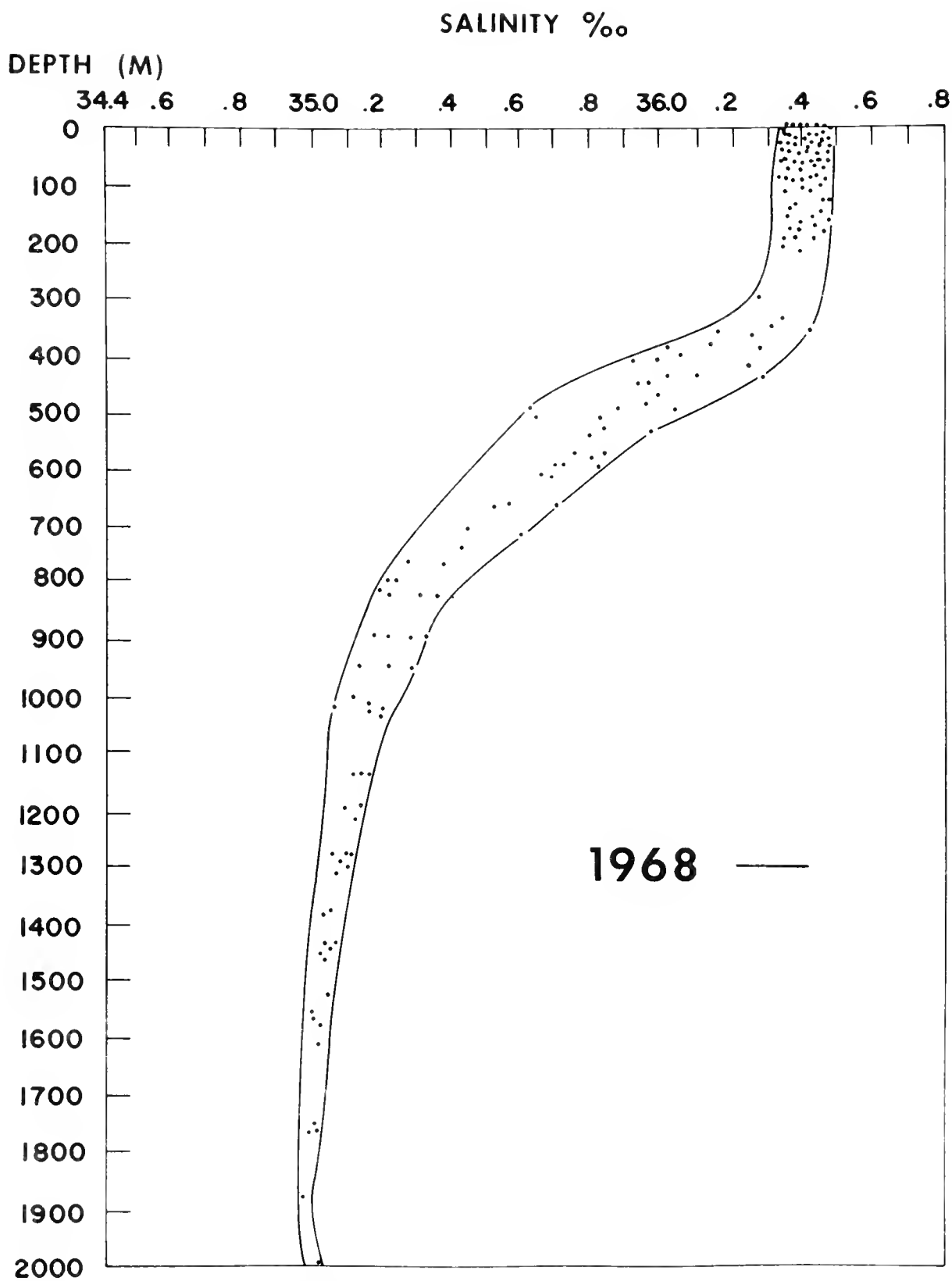


Figure 34. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC CASCO at Ocean Station ECHO, 5-27 May 1968.

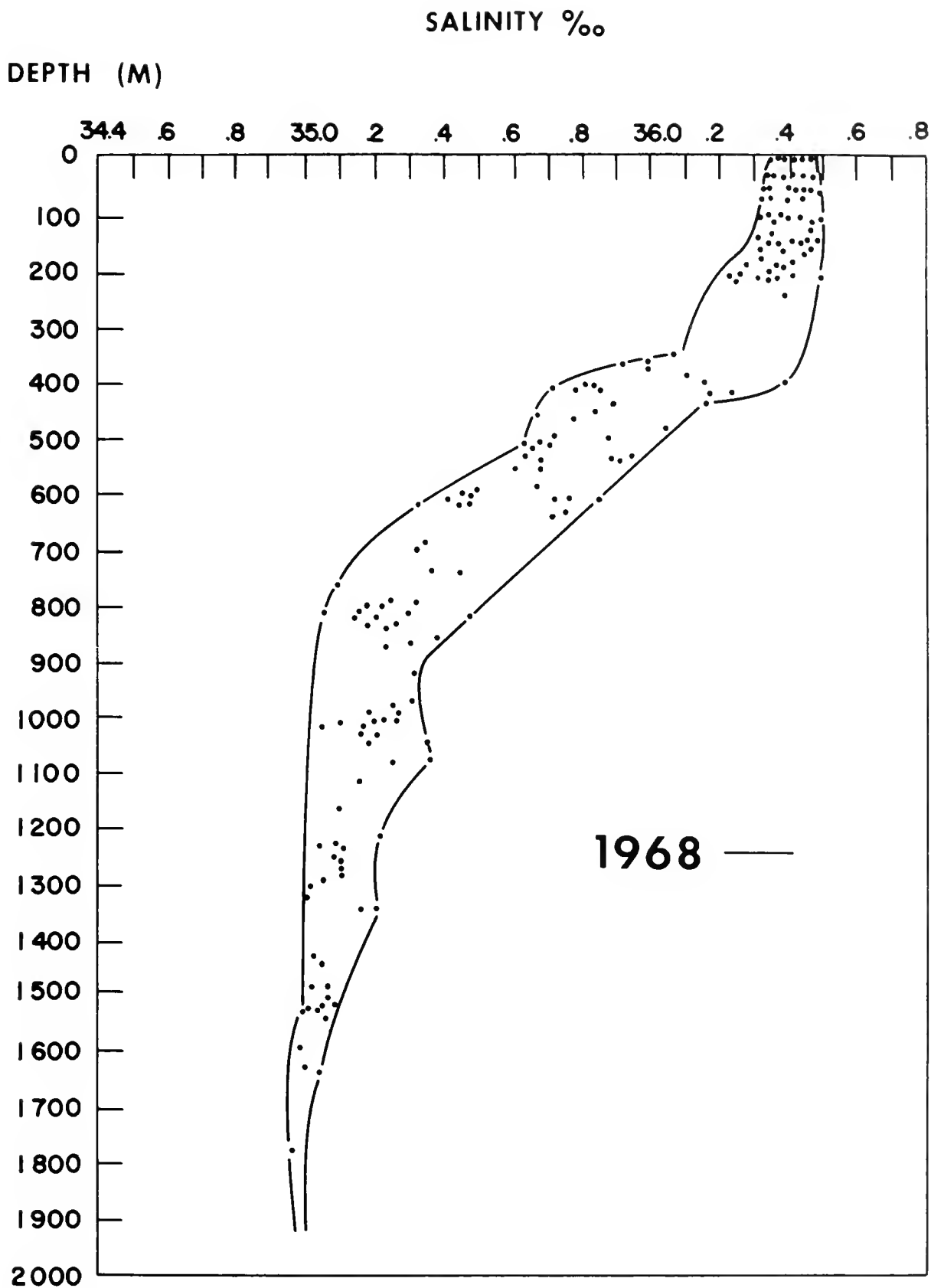


Figure 35. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC SEBAGO at Ocean Station ECHO, 28 May–19 June 1968.

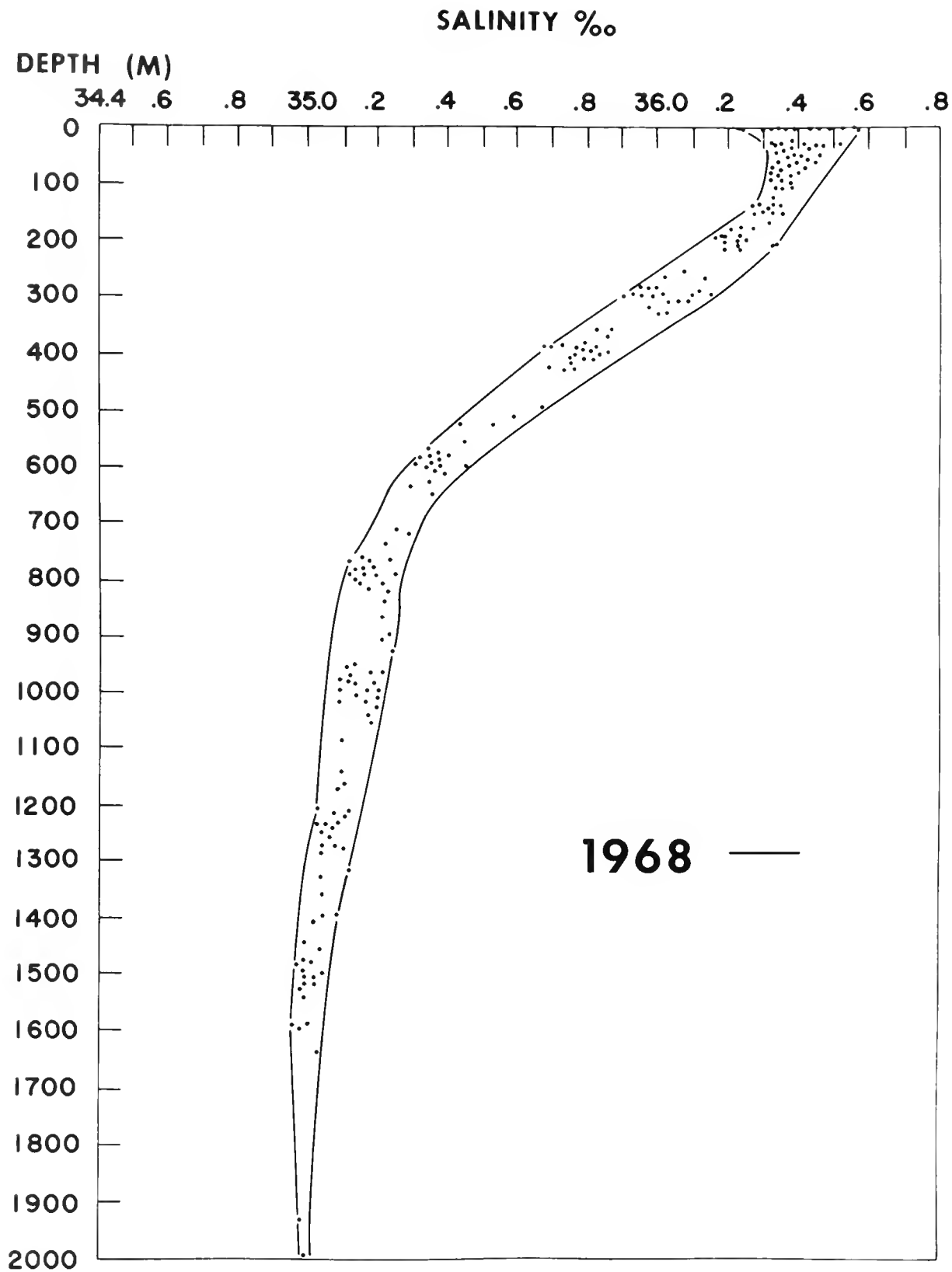


Figure 36. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC HALF MOON at Ocean Station ECHO, 20 June–12 July 1968.

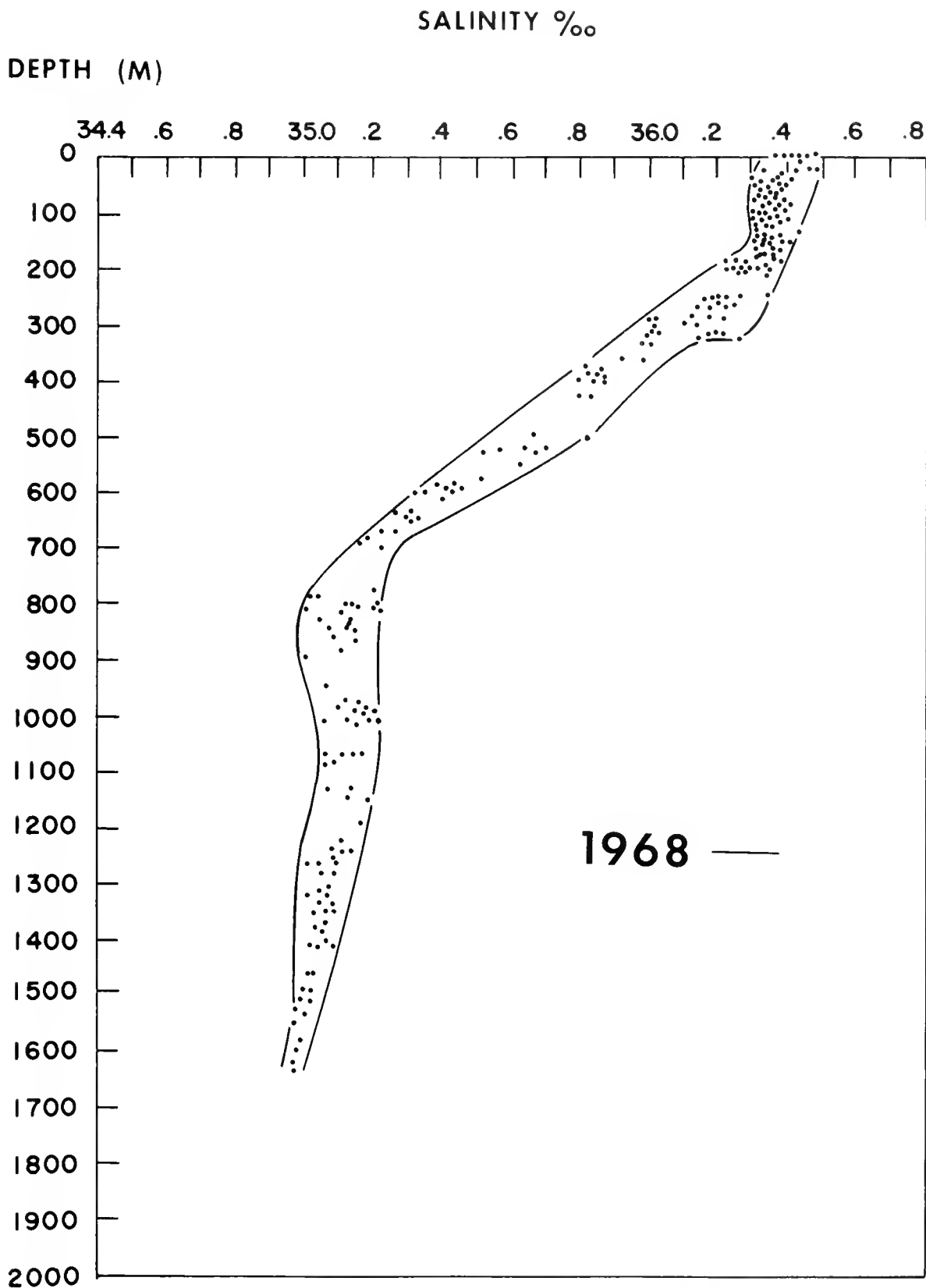


Figure 37. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC CASTLE ROCK at Ocean Station ECHO, 14 July-4 August 1968.

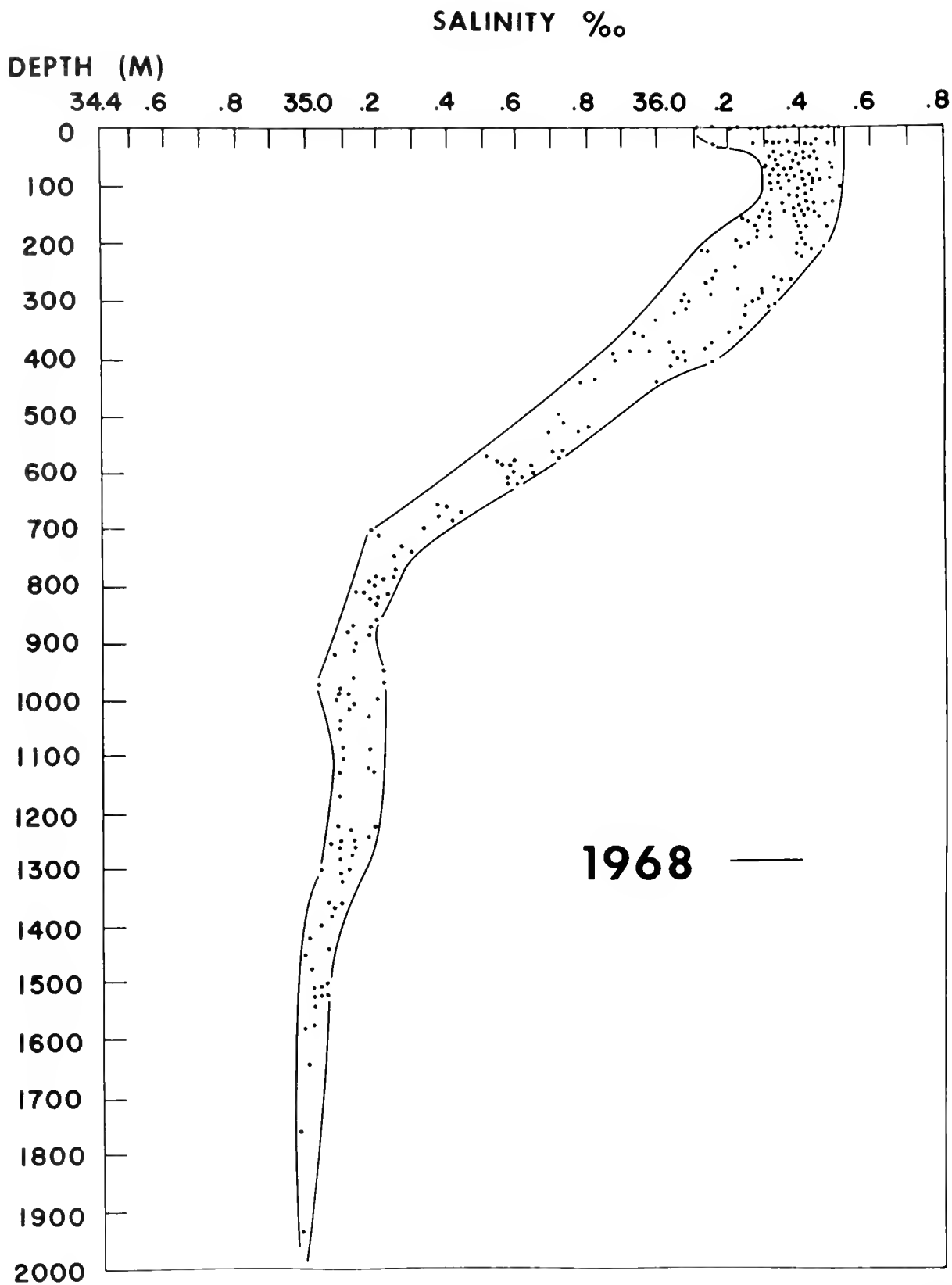


Figure 38. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC SEBAGO at Ocean Station ECHO, 5-27 August 1968.

SALINITY ‰

DEPTH (M)

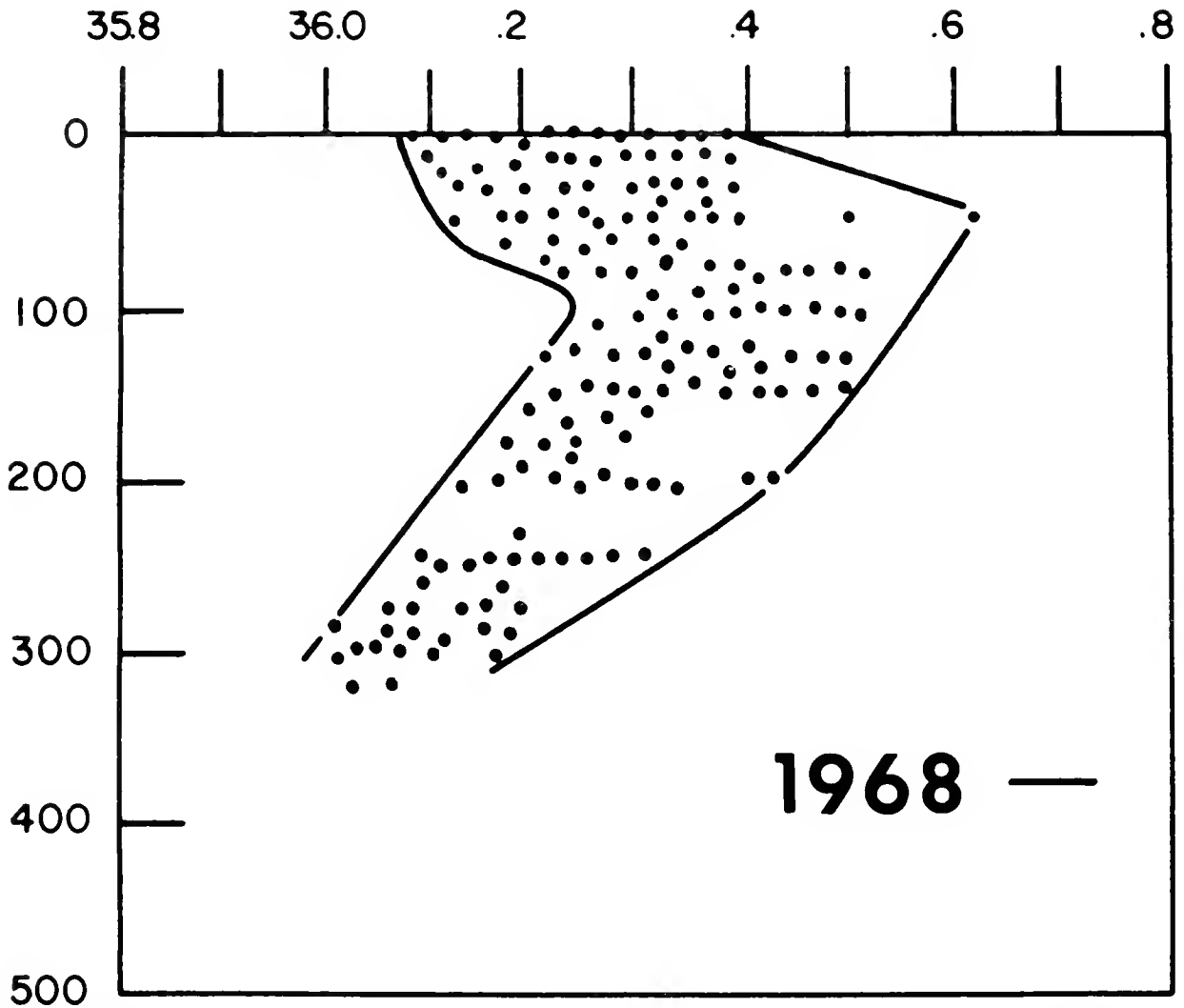


Figure 39. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC CHASE at Ocean Station ECHO, 1-22 September 1968.

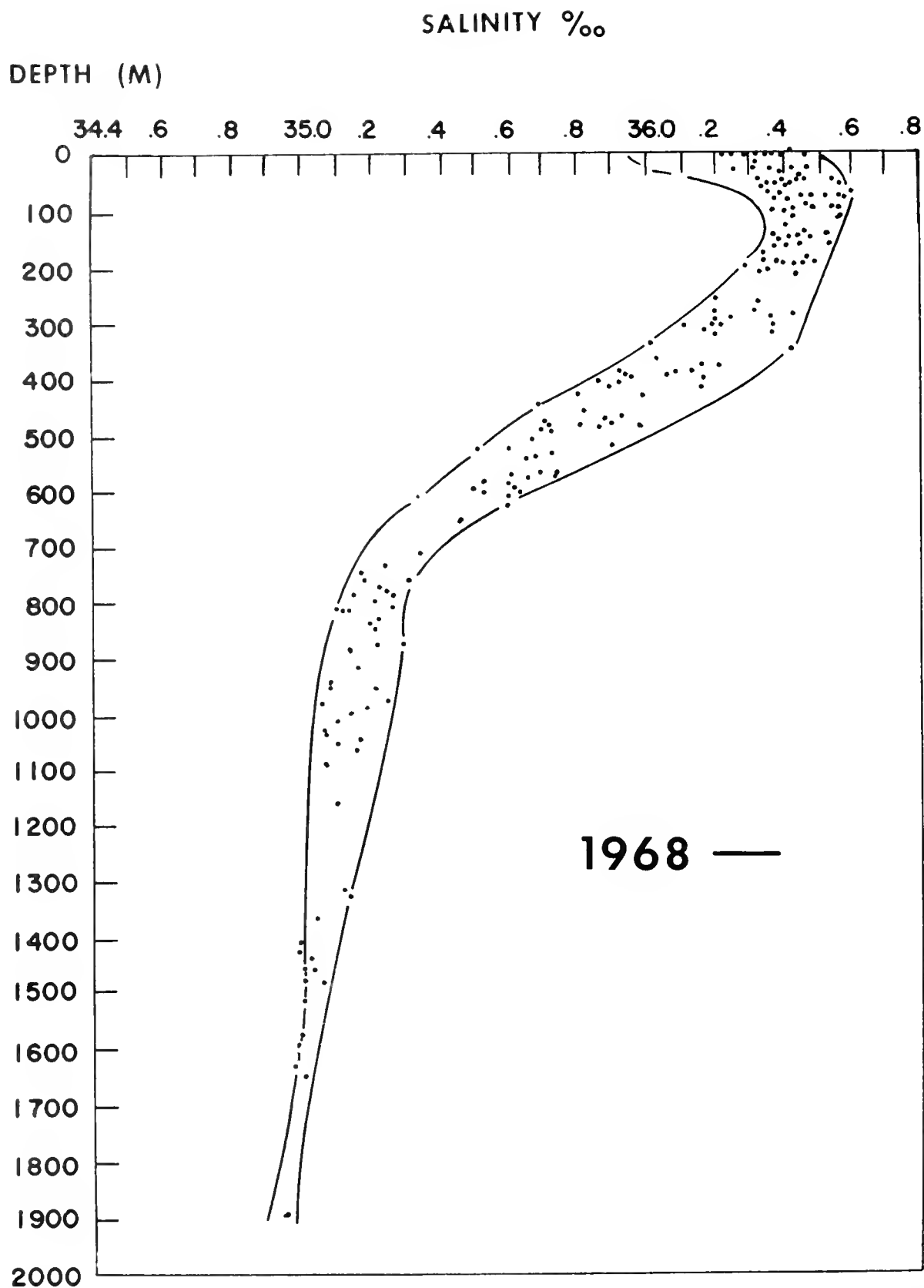


Figure 40. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC DALLAS at Ocean Station ECHO, 23 September–11 October 1968.

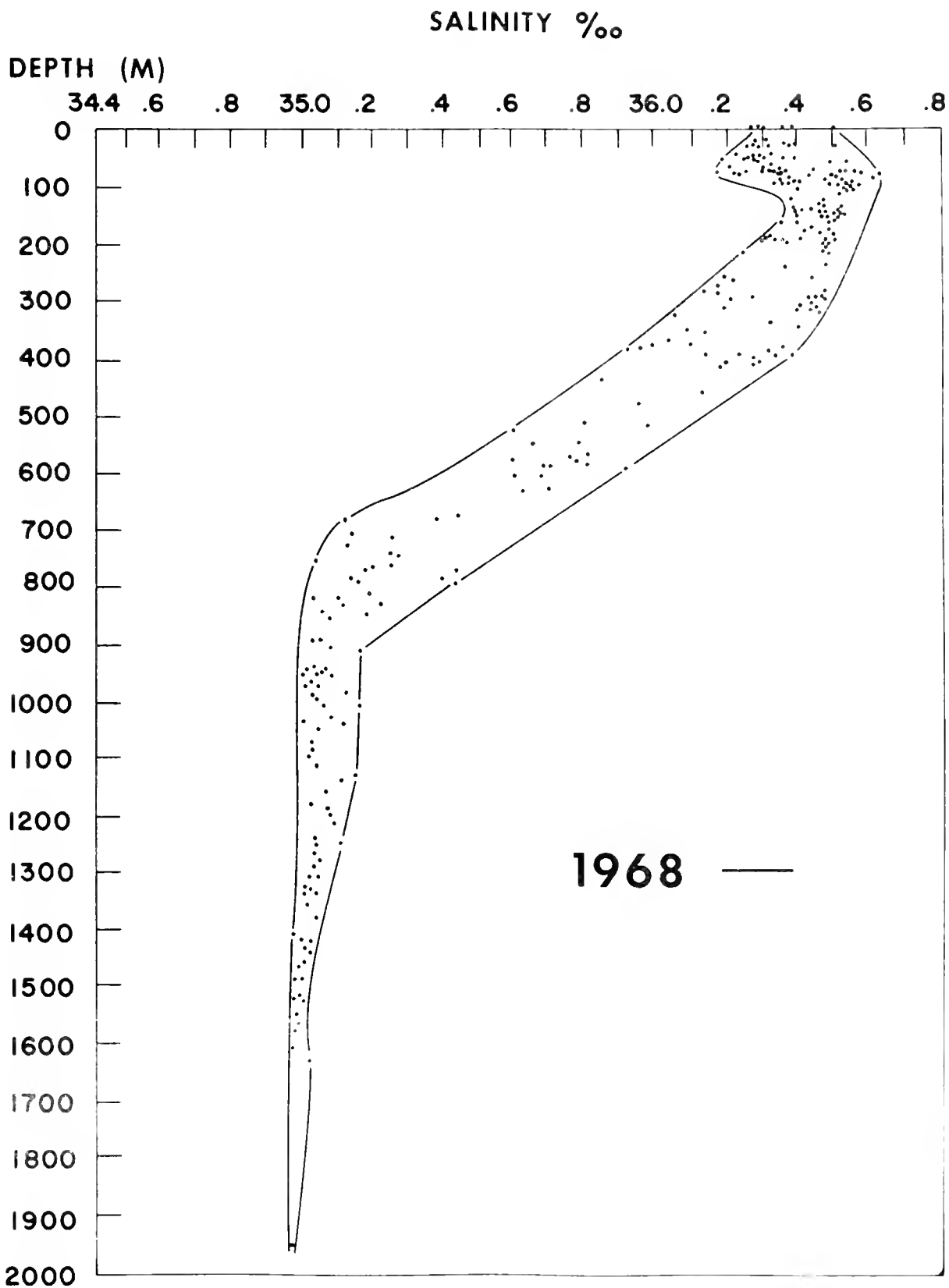


Figure 41. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC YAKUTAT at Ocean Station ECHO, 12 October–5 November 1968.

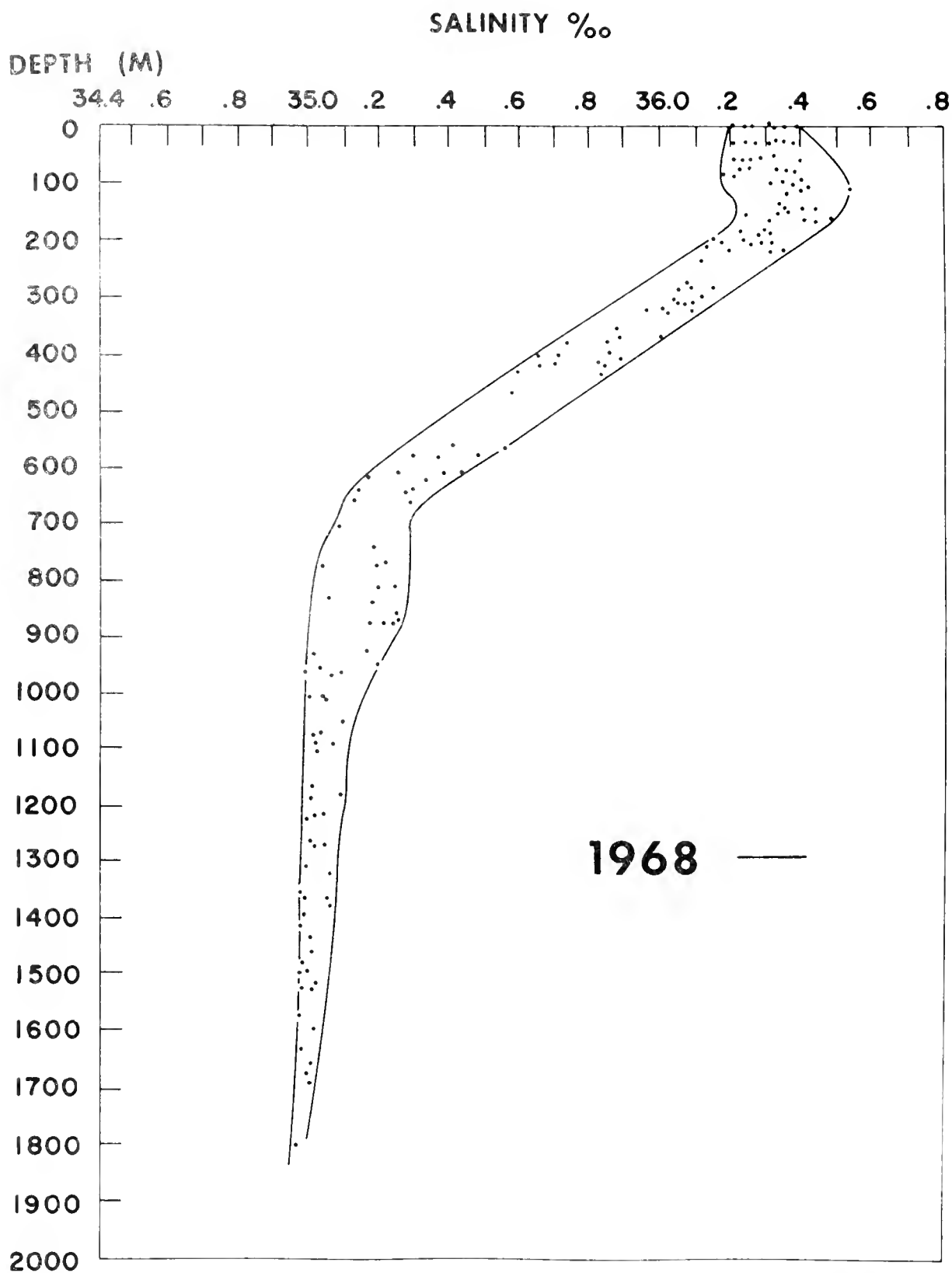


Figure 42. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC MC CULLOCH at Ocean Station ECHO, 6-25 November 1968.

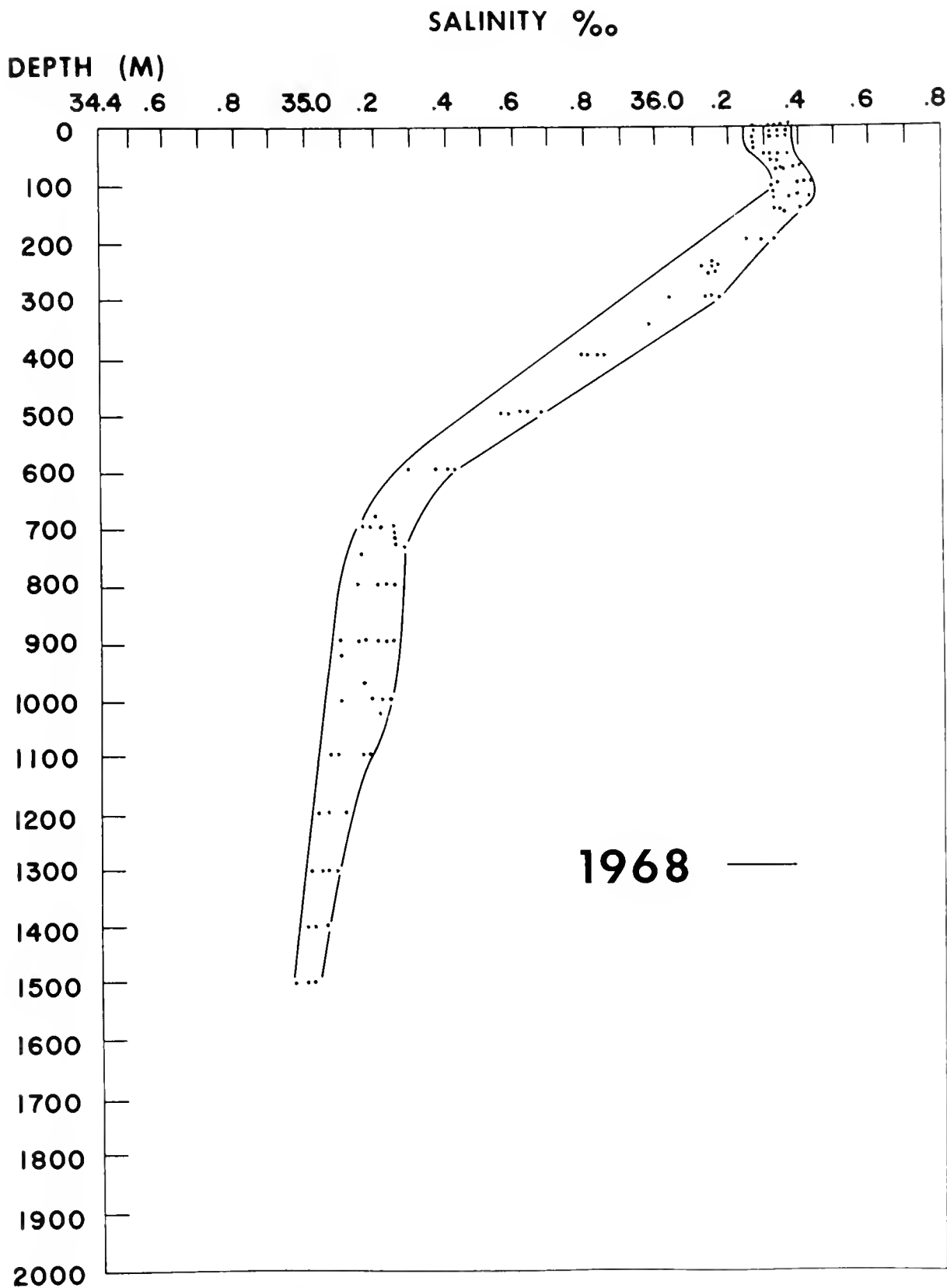
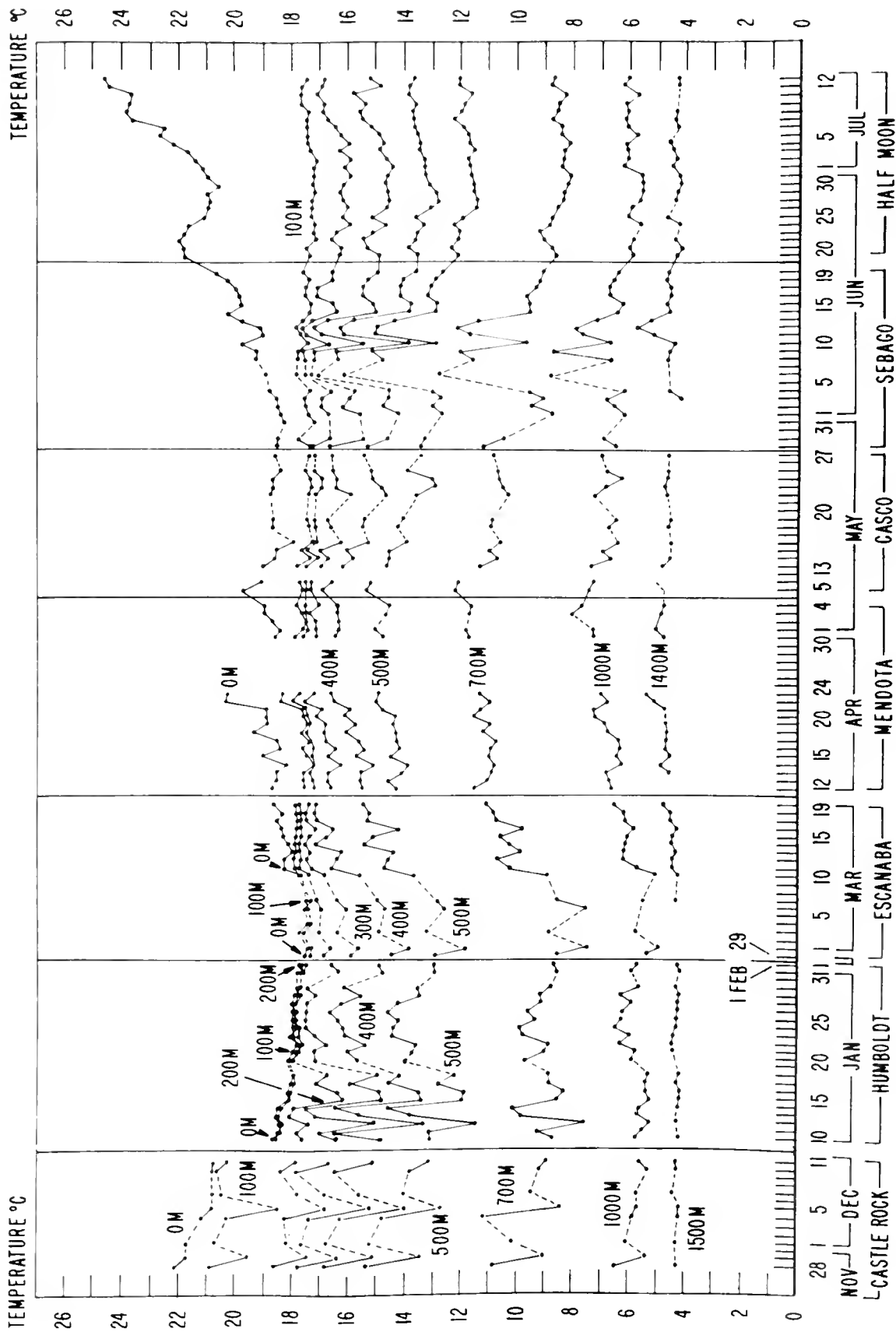


Figure 43. Envelope of salinity (‰) versus depth (m) at oceanographic stations taken by CGC BOUTWELL at Ocean Station ECHO, 30 November–5 December 1968.

WATER TEMPERATURE VERSUS TIME AT OCEAN STATION ECHO

28 NOVEMBER 1967 — 12 JULY 1968



WATER TEMPERATURE VERSUS TIME AT OCEAN STATION ECHO

14 JULY - 5 DECEMBER 1968

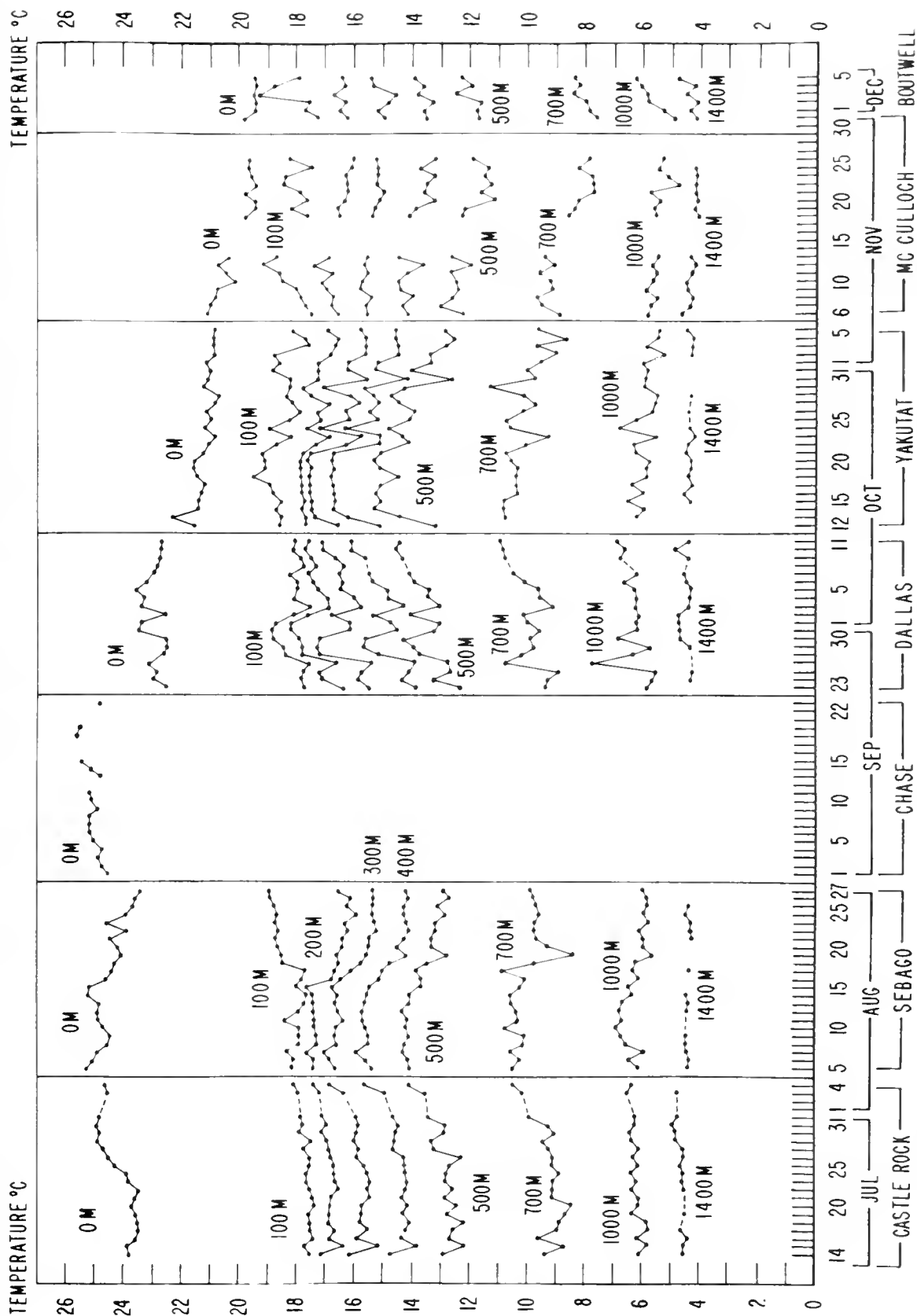


Figure 44B. Water temperature (°C) versus time at selected depths (m) at Ocean Station ECHO, July-December 1968.

SALINITY VERSUS TIME AT OCEAN STATION ECHO

28 NOVEMBER 1967 — 12 JULY 1968

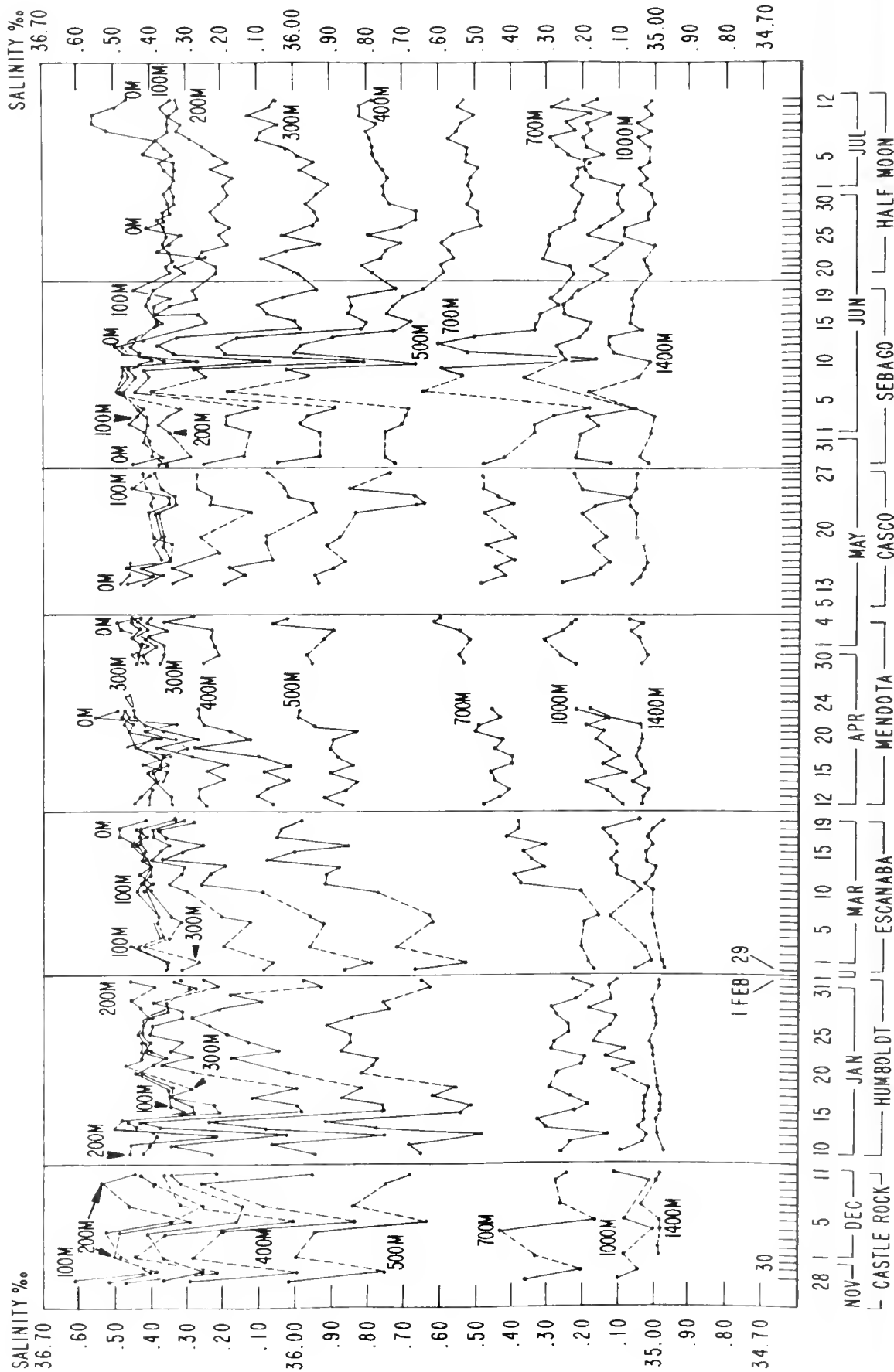


Figure 45A. Salinity (%) versus time at selected depths (m) at Ocean Station ECHO, November 1967-July 1968.

SALINITY VERSUS TIME AT OCEAN STATION ECHO

14 JULY — 5 DECEMBER 1968

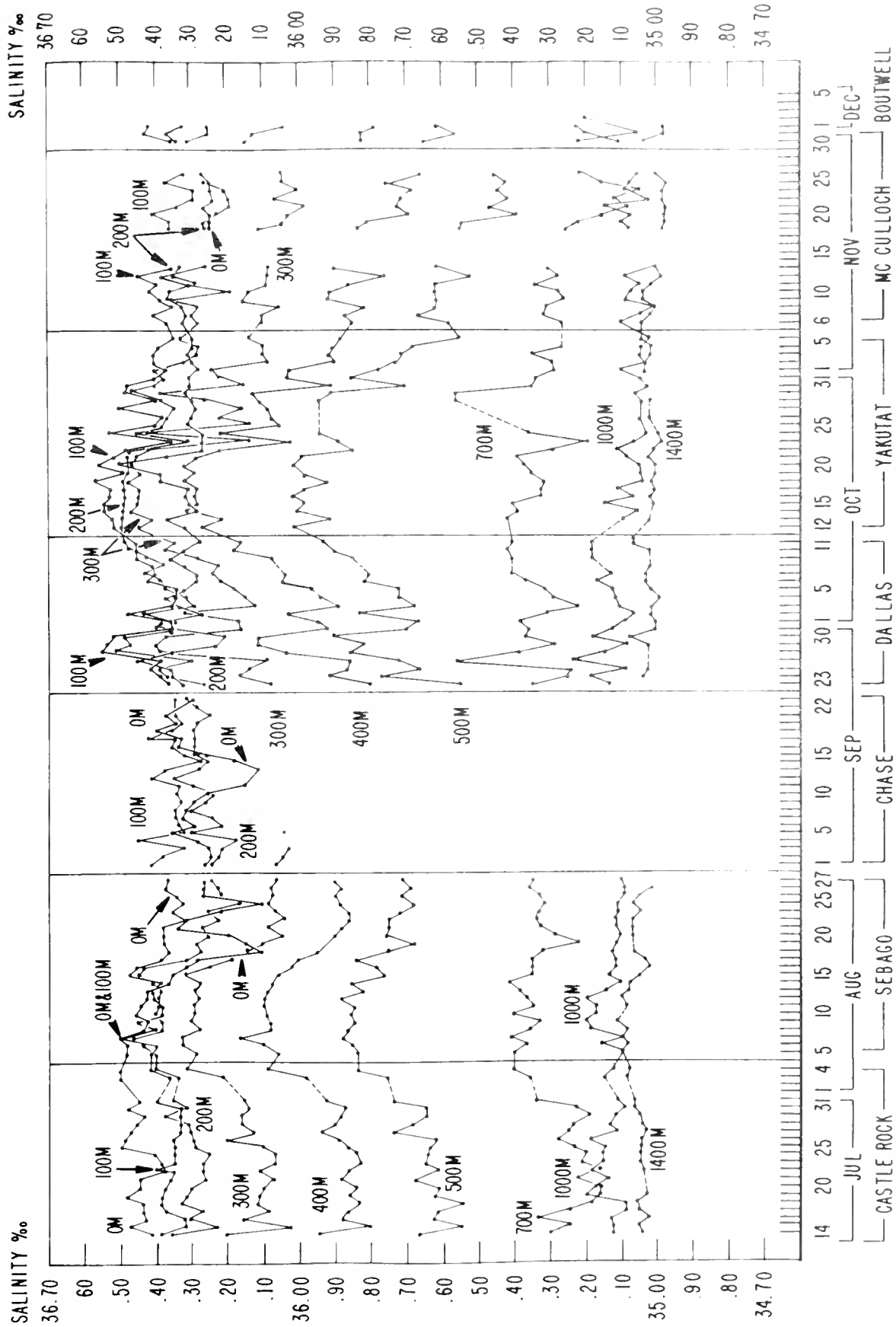


Figure 45B. Salinity (‰) versus time at selected depths (m) at Ocean Station ECHO, July-December 1968

TEMPERATURE °C

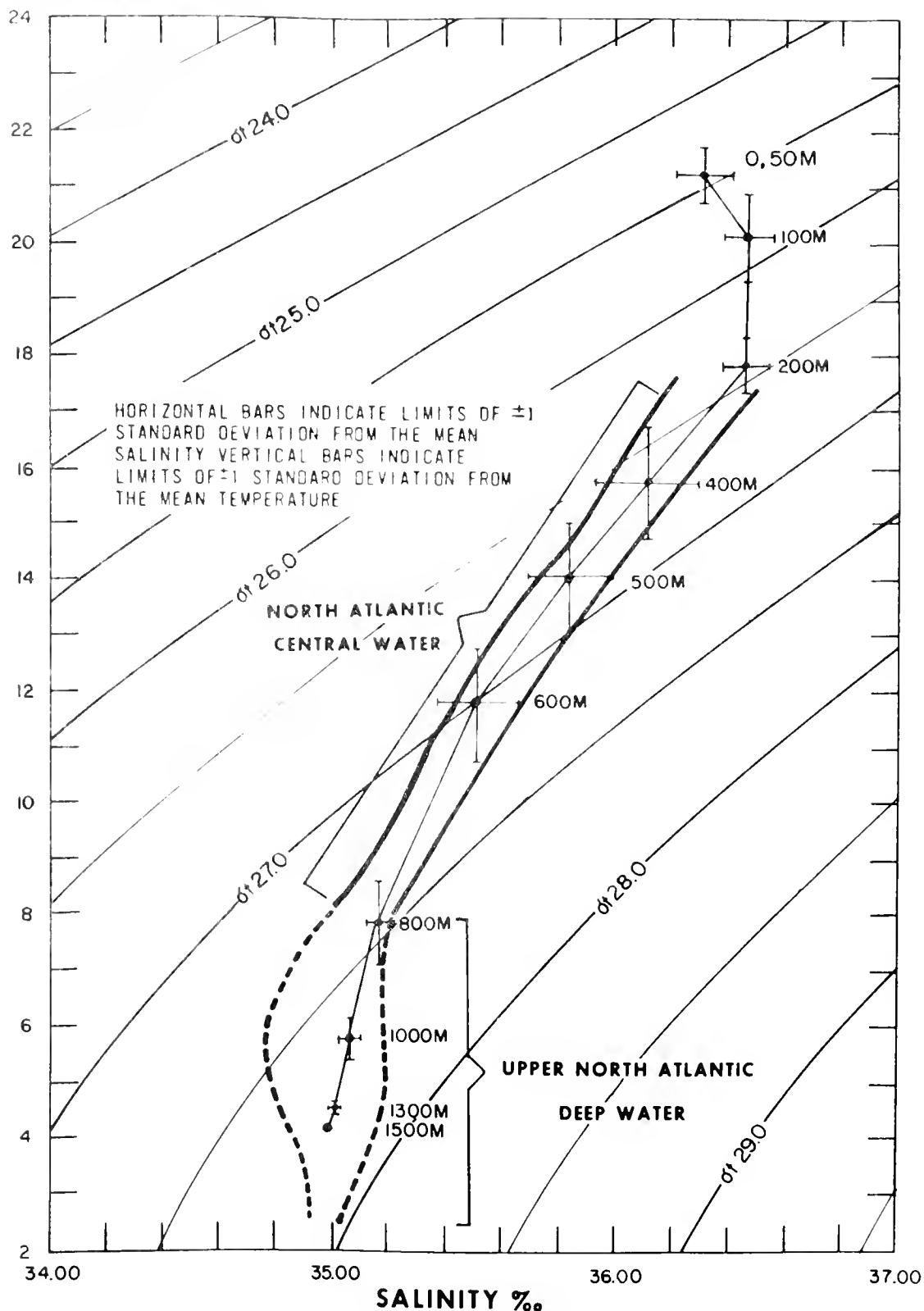


Figure 46. Mean temperature (°C) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC CASTLE ROCK at Ocean Station ECHO, 28 November–11 December 1967 (8 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

TEMPERATURE °C

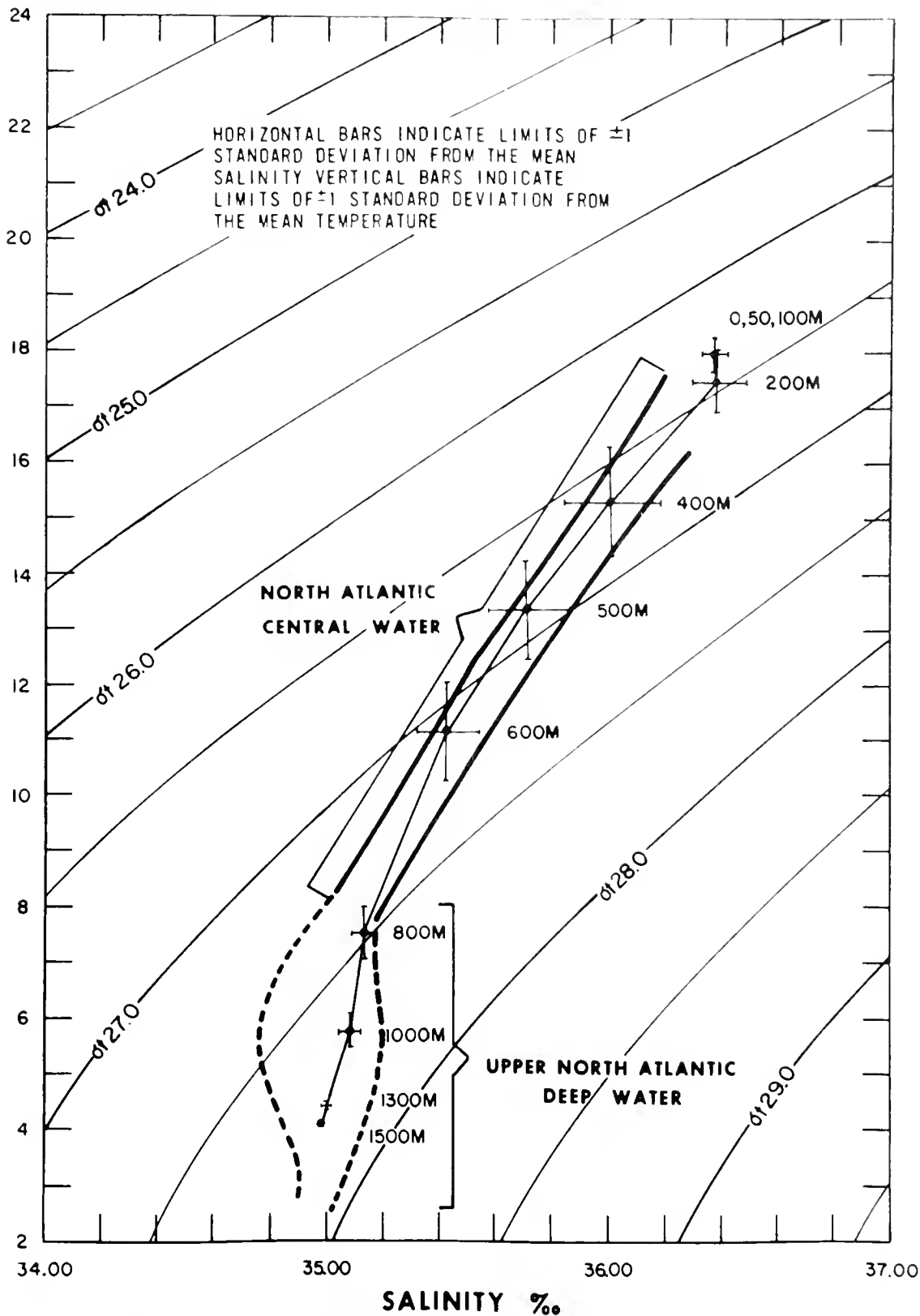


Figure 47. Mean temperature (°C) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC HUMBOLDT at Ocean Station ECHO, 10 January–1 February 1968 (23 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

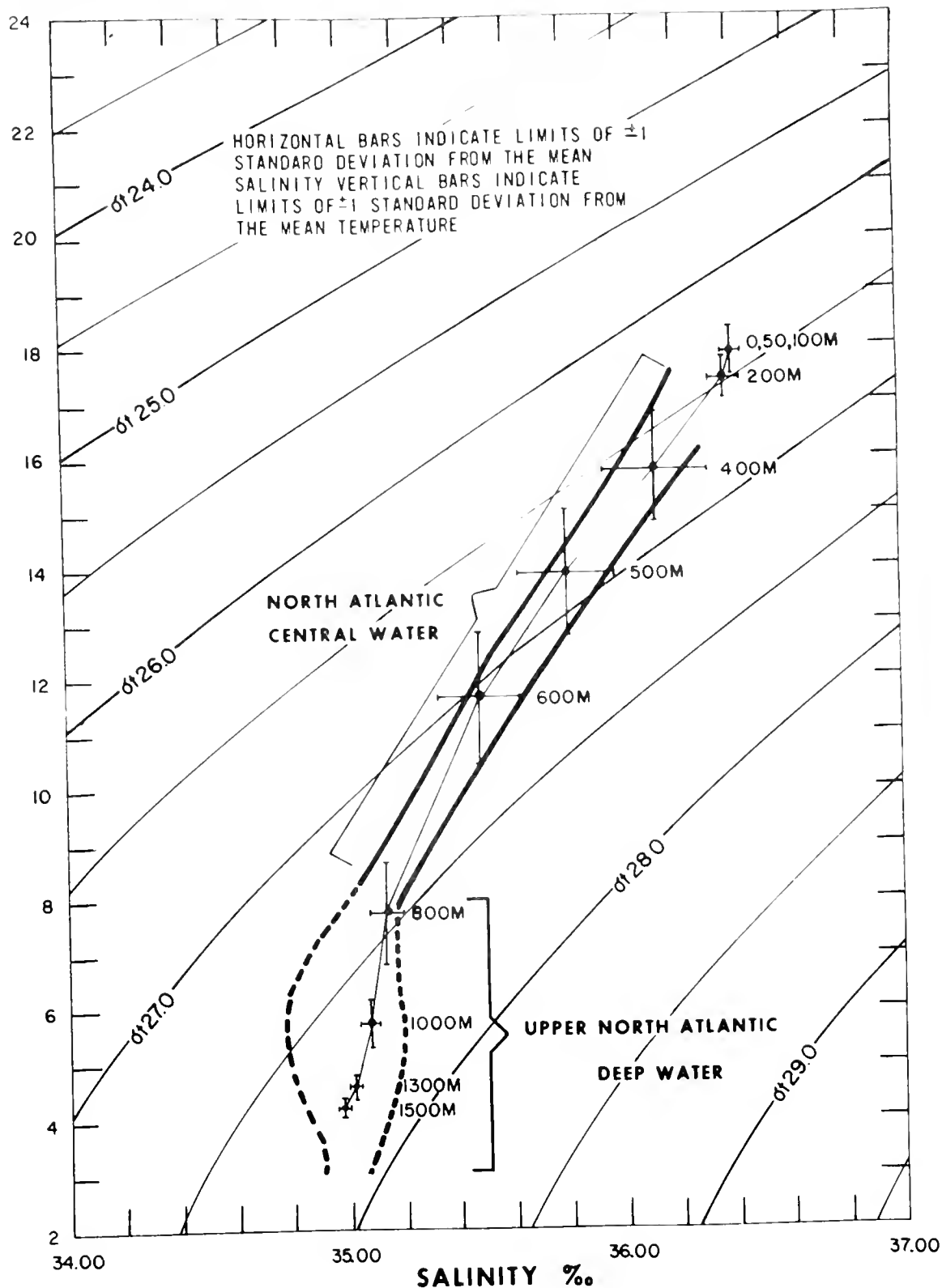


Figure 48. Mean temperature ($^{\circ}\text{C}$) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC ESCANABA at Ocean Station ECHO, 29 February–19 March 1968 (18 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

TEMPERATURE °C

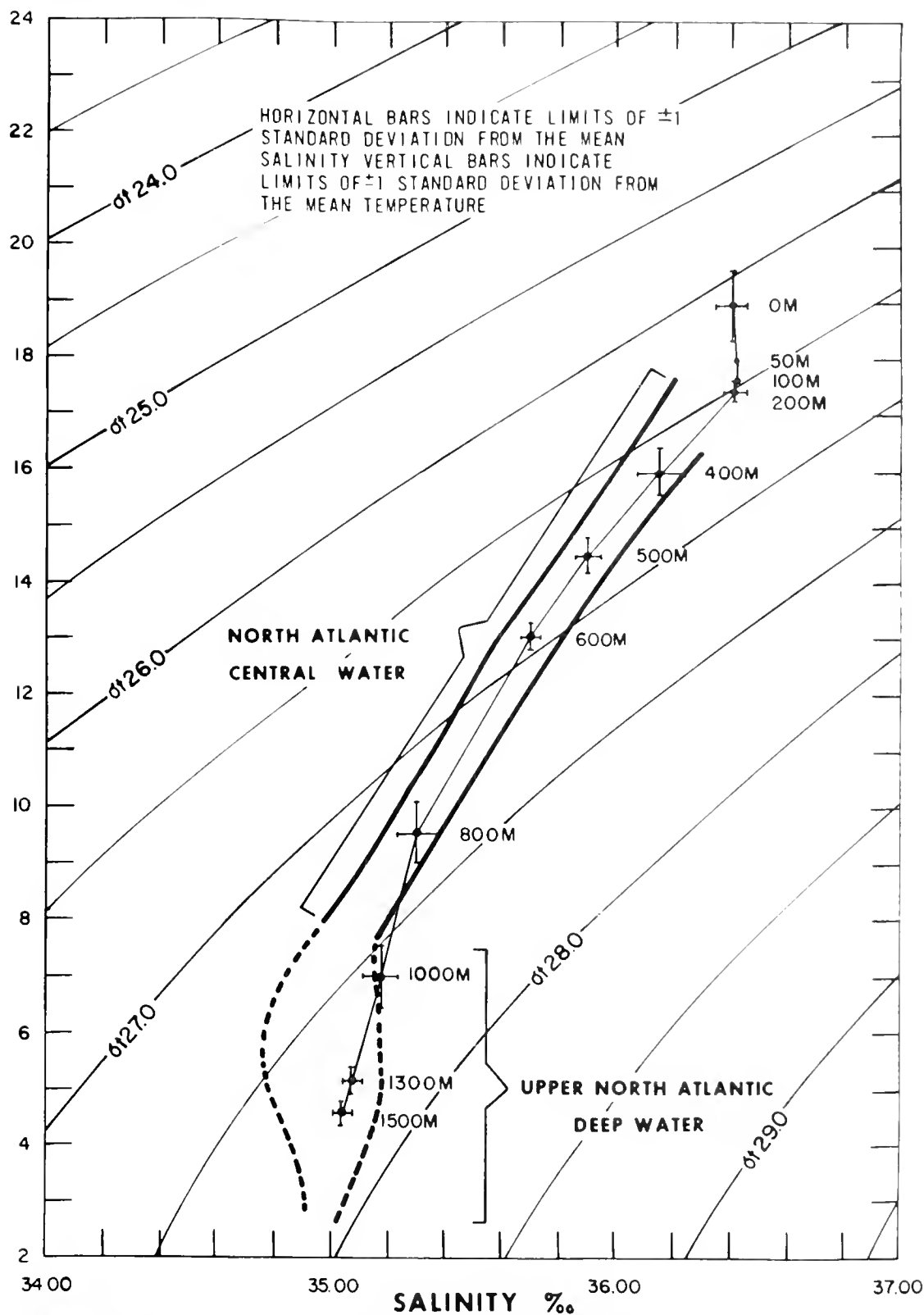


Figure 49. Mean temperature ($^{\circ}\text{C}$) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC MENDOTA at Ocean Station ECHO, 12 April-4 May 1968 (18 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

TEMPERATURE °C

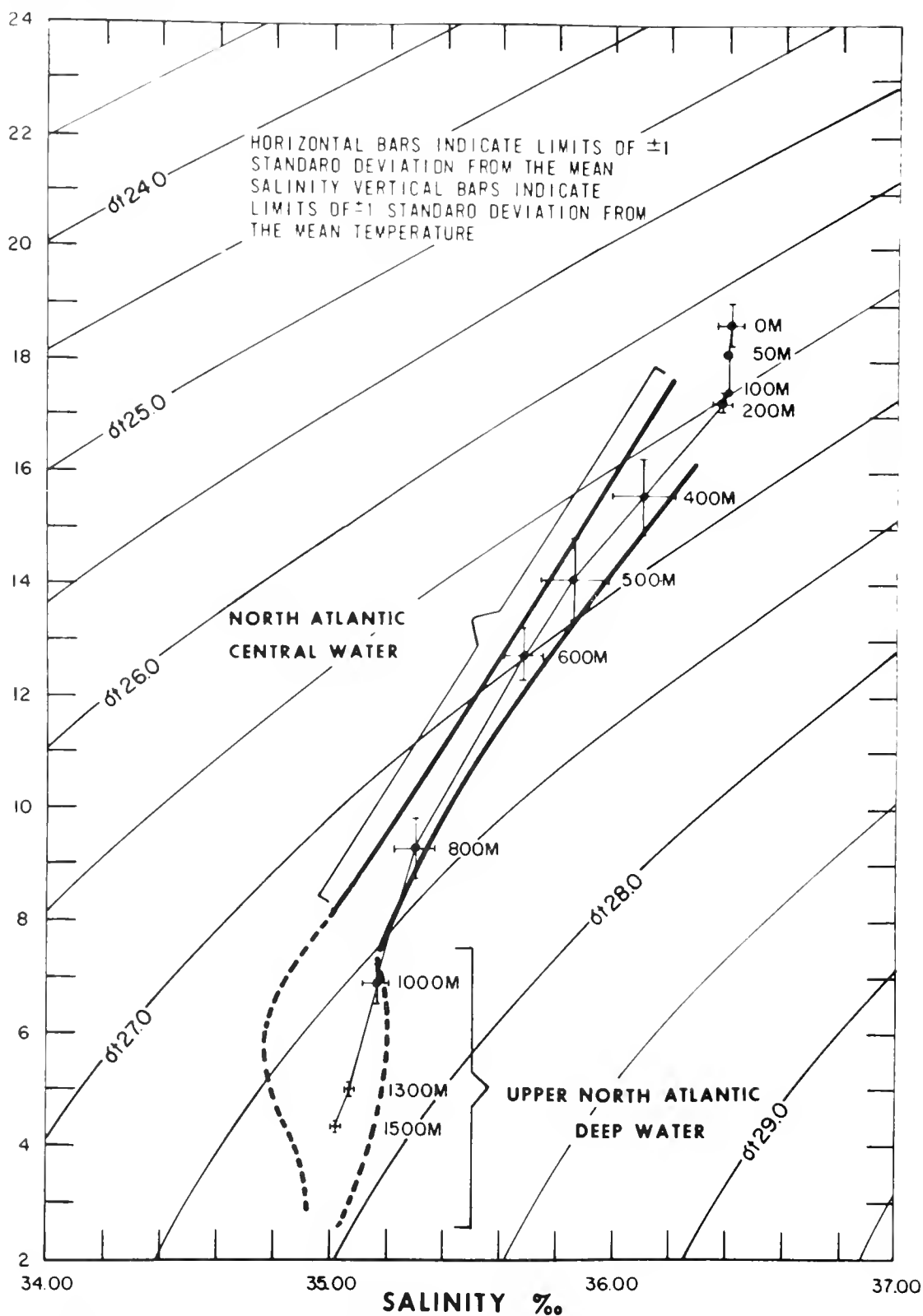


Figure 50. Mean temperature (°C) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC CASCO at Ocean Station ECHO, 5-27 May 1968 (13 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

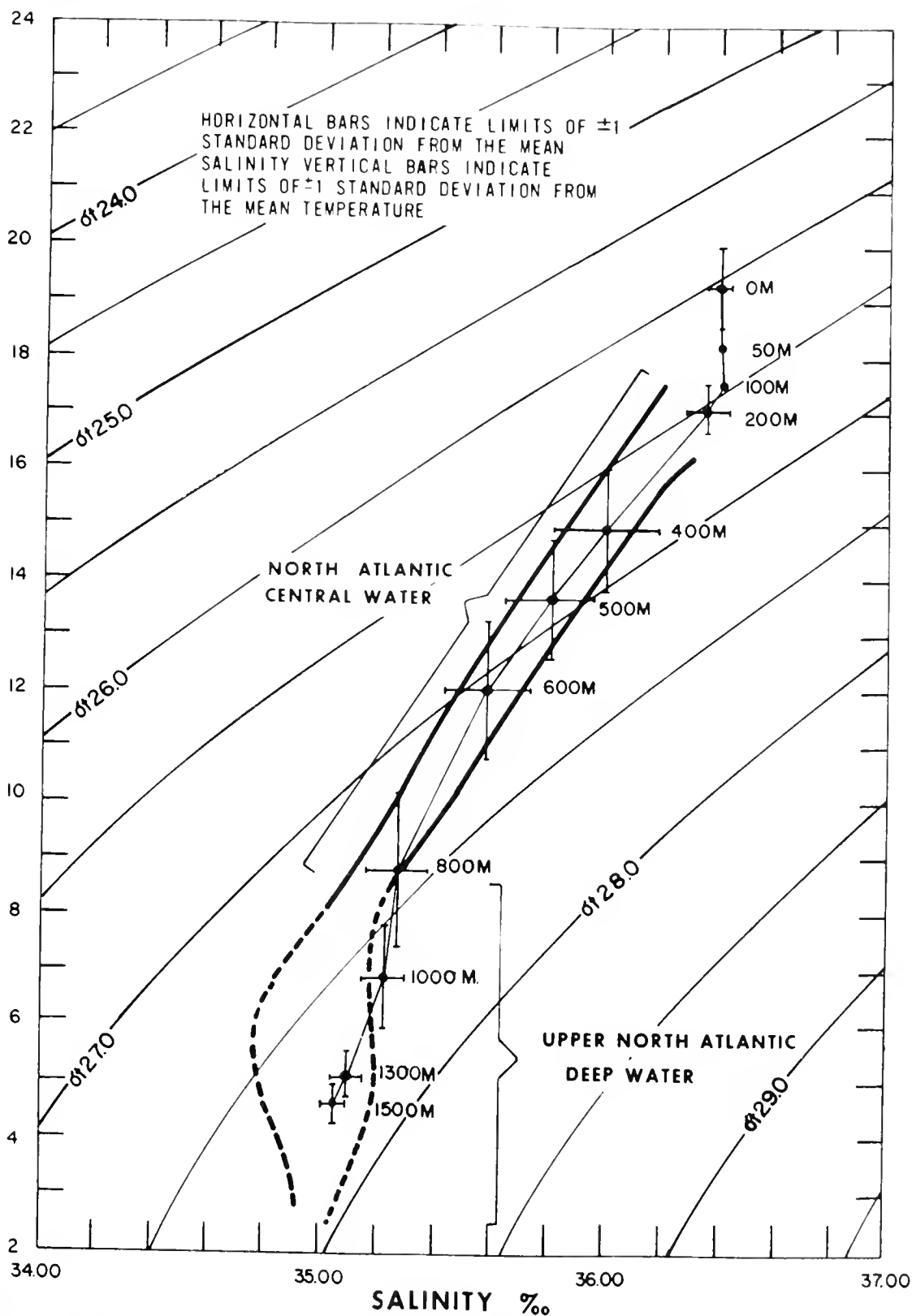


Figure 51. Mean temperature (°C) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC SEBAGO at Ocean Station ECHO, 28 May-19 June 1968 (20 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

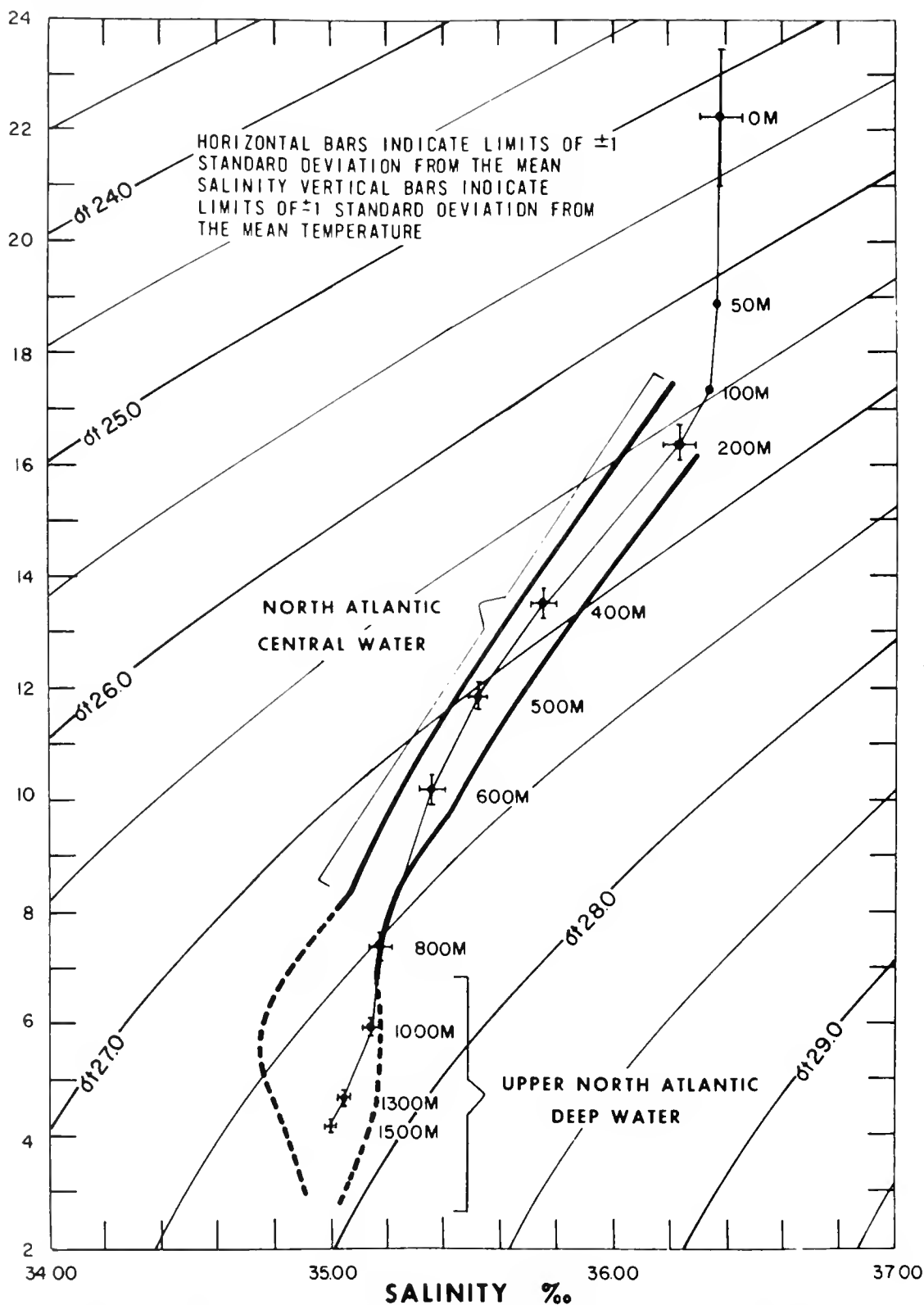


Figure 52. Mean temperature ($^{\circ}\text{C}$) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC HALF MOON at Ocean Station ECHO, 20 June 12 July 1968 (23 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

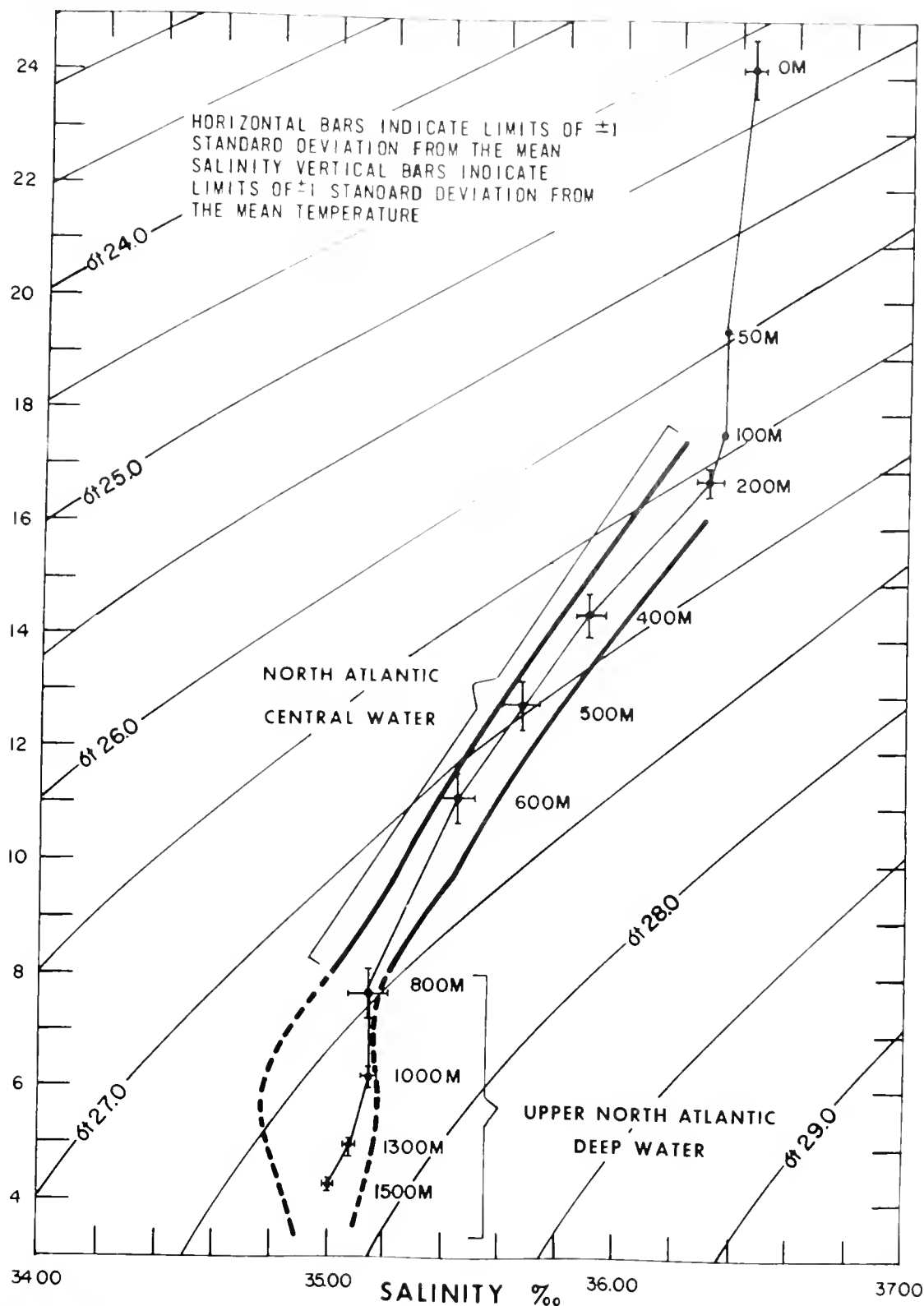


Figure 53. Mean temperature (°C) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC CASTLE ROCK at Ocean Station ECHO, 14 July-4 August 1968 (20 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

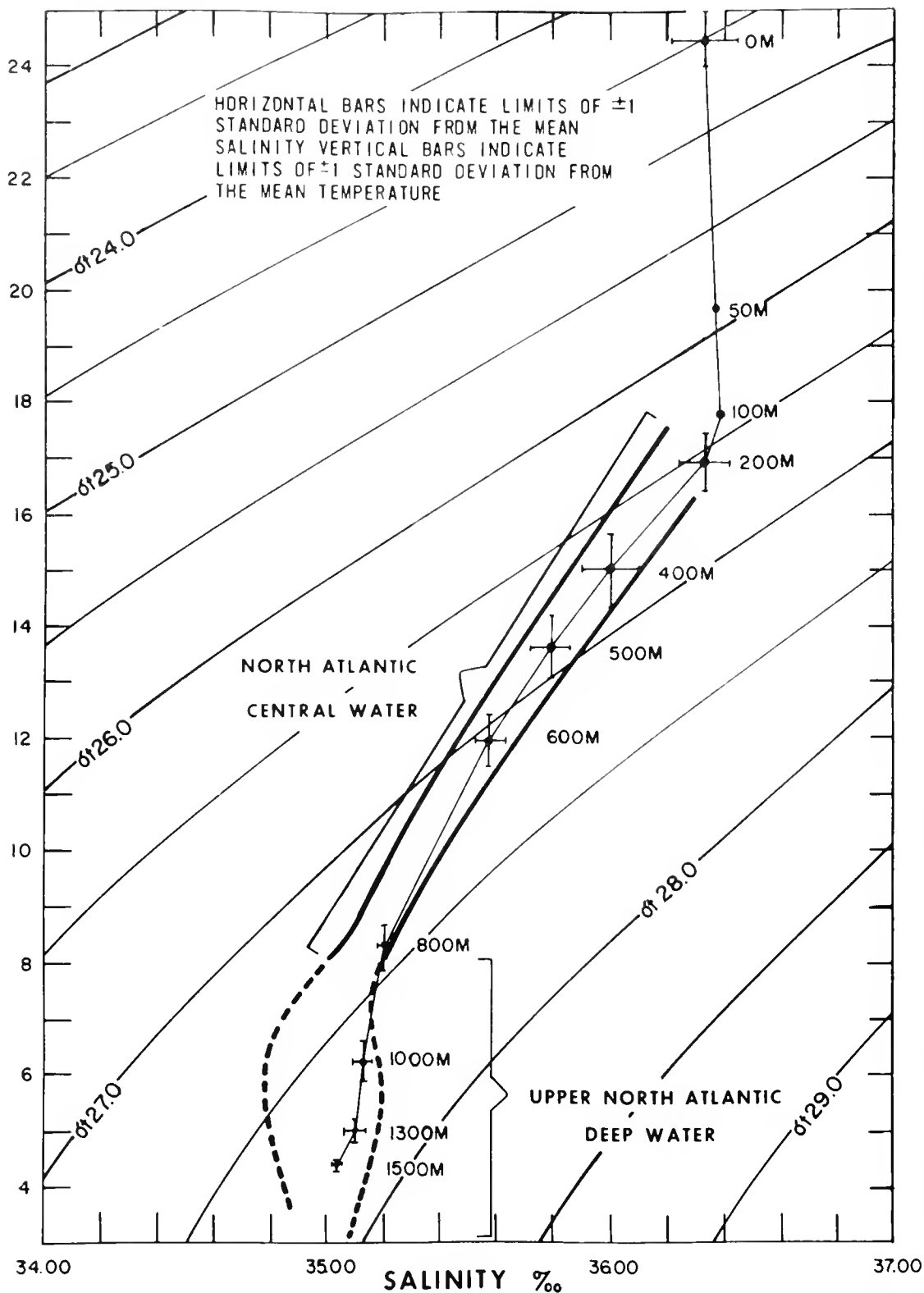


Figure 54. Mean temperature (°C) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC SEBAGO at Ocean Station ECHO, 5-27 August 1968 (23 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

TEMPERATURE °C

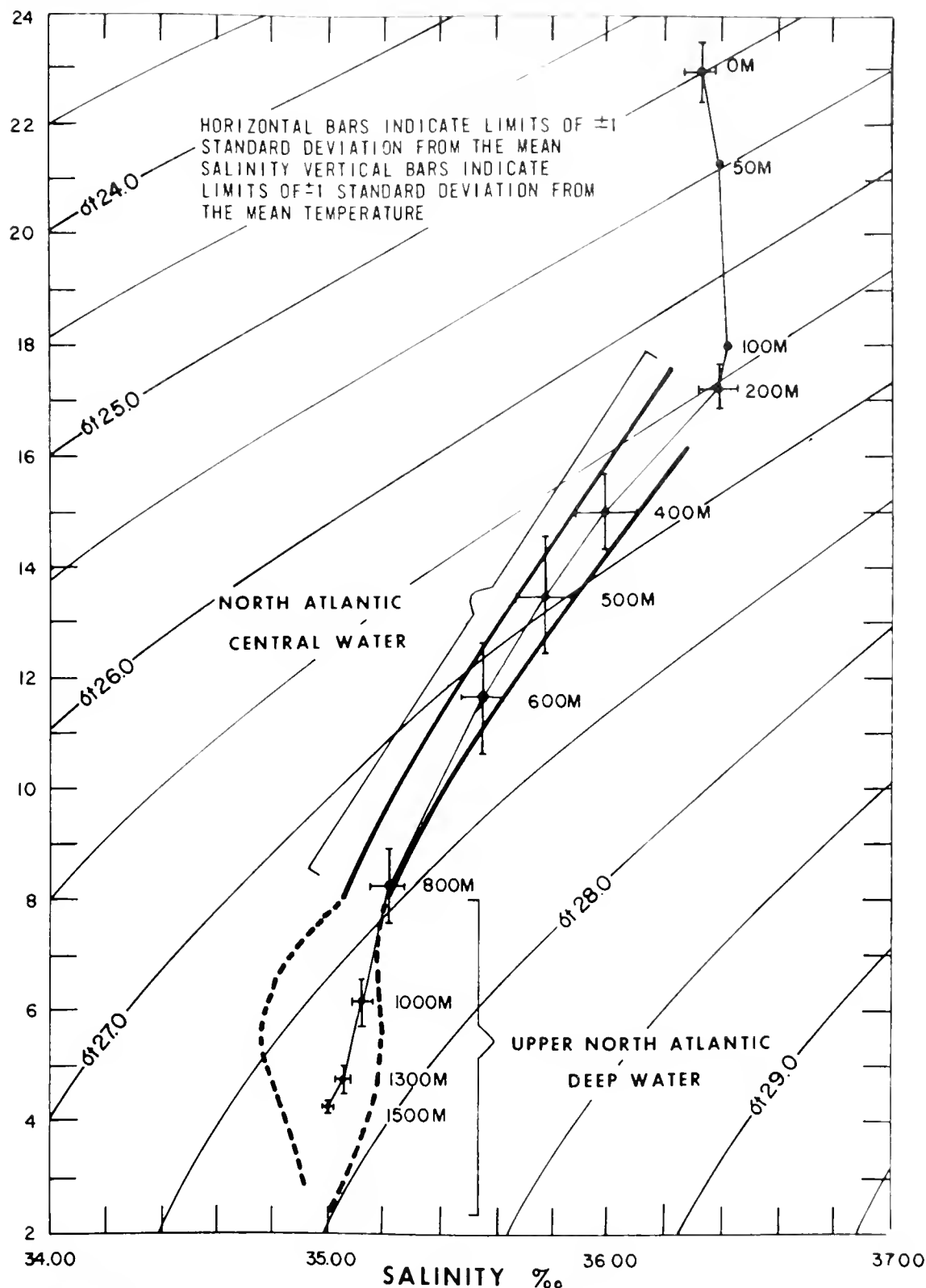


Figure 55. Mean temperature ($^{\circ}\text{C}$) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC DALLAS at Ocean Station ECHO, 23 September–11 October 1968 (19 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

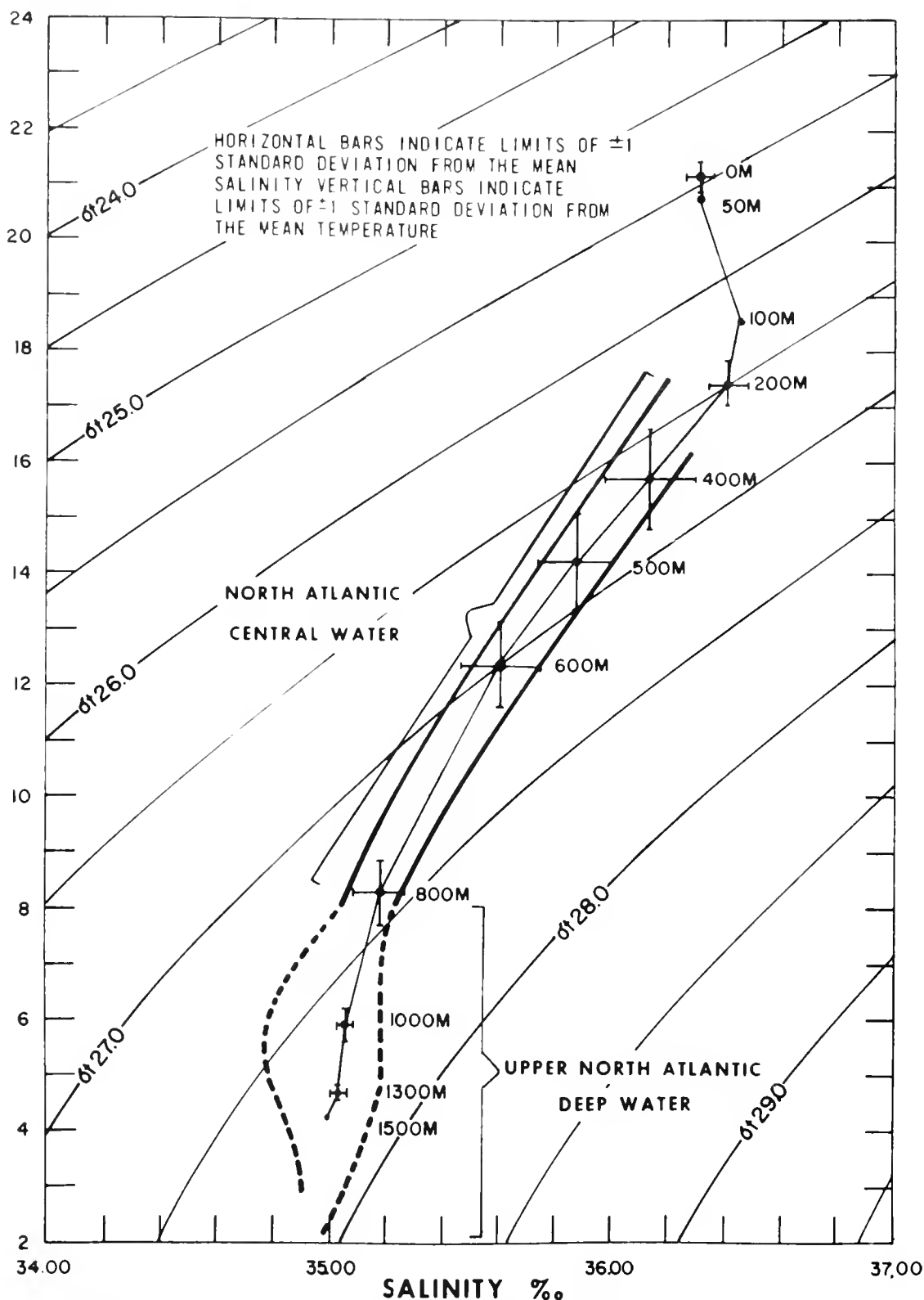


Figure 56. Mean temperature (°C) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC YAKUTAT at Ocean Station ECHO, 12 October–5 November 1968 (25 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

TEMPERATURE °C

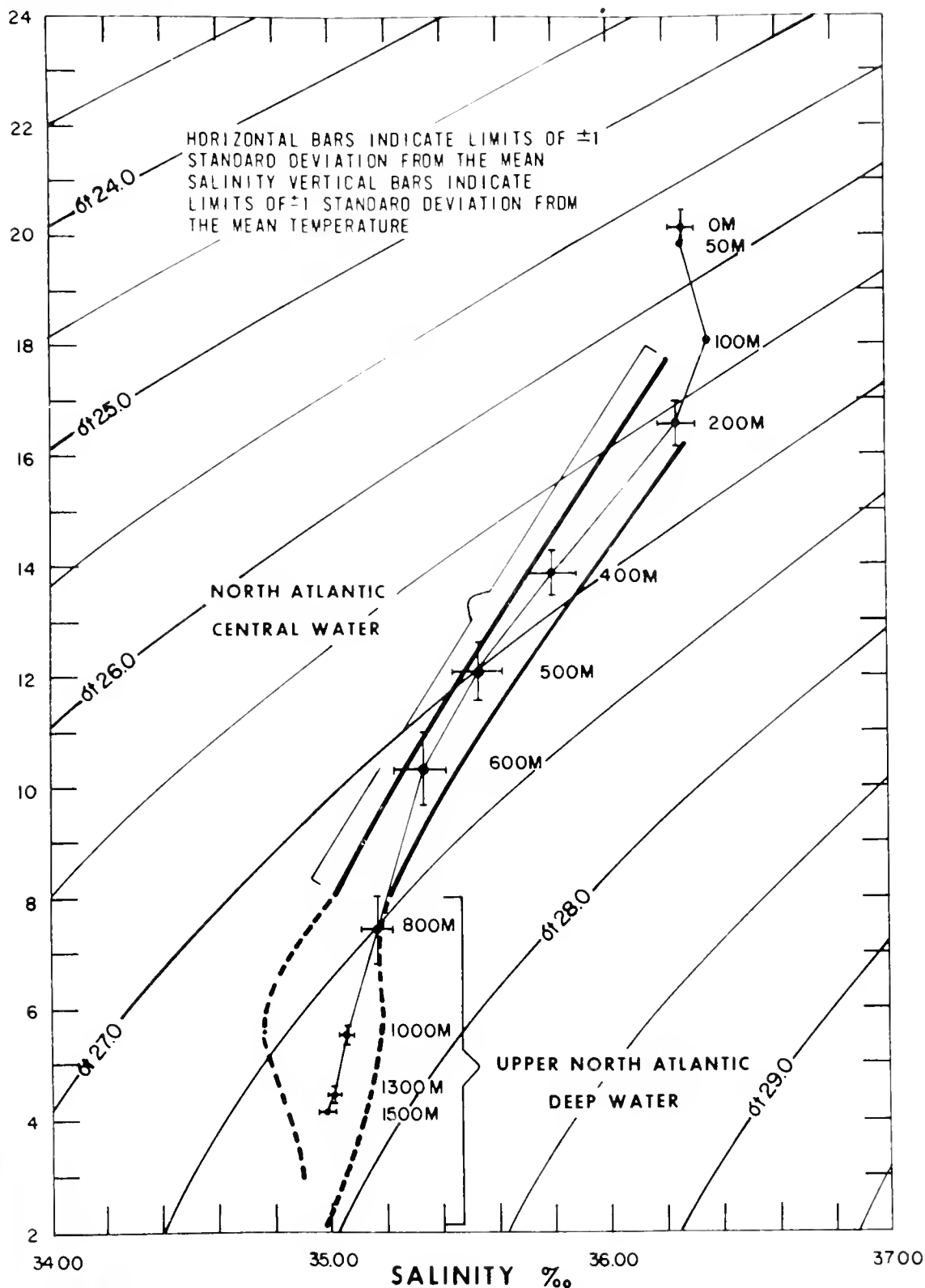


Figure 57. Mean temperature (°C) versus mean salinity (‰) at standard depths (m) at oceanographic stations taken by CGC MCCULLOCH at Ocean Station ECHO 6-25 November 1968 (16 stations). Horizontal and vertical bars indicate limits of ± 1 standard deviation of salinity and temperature. Solid-line and dashed-line envelopes indicate defined limits of North Atlantic Central Water (NACW) and Upper North Atlantic Deep Water (UNADW).

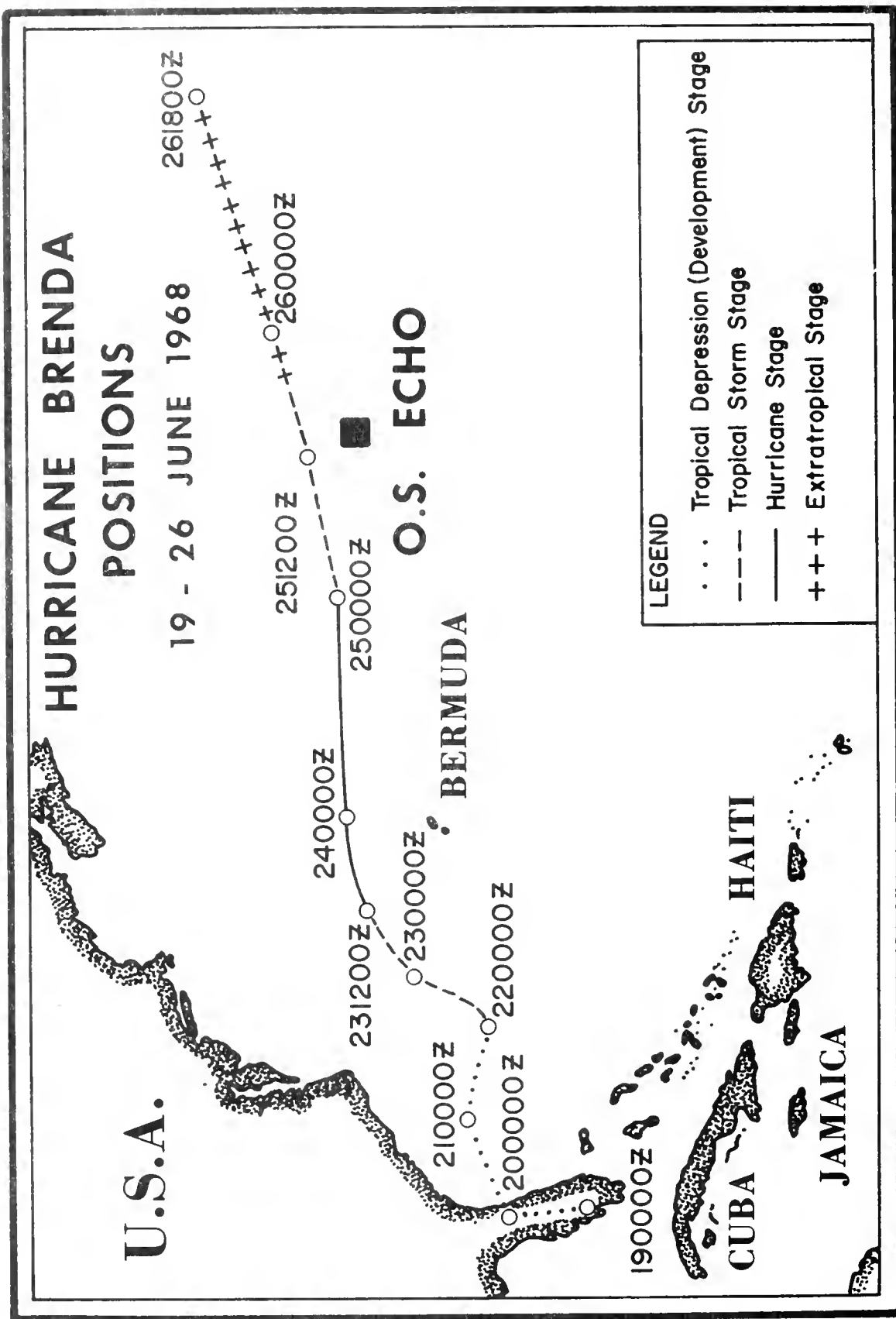


Figure 58. Storm track of hurricane BRENDA, 19-26 June 1968, taken from Annual Tropical Storm Report (OPNAV Report 3140-9), Fleet Weather Facility, Jacksonville, Fla.

APPENDIX A

Oceanographic Data

Cruises Listed

Table	Page
I. CGC CASTLE ROCK November–December 1967	
II. CGC HUMBOLDT January–February 1968	
III. CGC ESCANABA February–March 1968	
IV. CGC MENDOTA April–May 1968	
V. CGC CASCO May 1968	
VI. CGC SEBAGO May–June 1968	
VII. CGC HALF MOON June–July 1968	
VIII. CGC CASTLE ROCK July–August 1968	
IX. CGC SEBAGO August 1968	
X. CGC CHASE August–September 1968	
XI. CGC DALLAS September–October 1968	
XII. CGC YAKUTAT October–November 1968	
XIII. CGC MC CULLOCH November 1968	
XIV. CGC BOUTWELL November–December 1968	

Codes Utilized

A complete description of the codes utilized in the tabulation of oceanographic station data can be found in National Oceanographic Data Center publication M-2, *Processing Physical and Chemical Data from Oceanographic Stations*. (Rev. August 1964, supplement issued May 1966.)

To facilitate use of the oceanographic station data listing, entry headings which are not self-explanatory are described below.

Depth to bottom Corrected or uncorrected sounding in meters.

Max. depth of samples Depth of deepest sample to nearest multiple of 100 meters.

Wave observations:

Dir. Rounded to nearest multiple of 10 degrees.

Hgt. Increments of $\frac{1}{2}$ m. Sum of 5 meters plus increments of $\frac{1}{2}$ m if 50 is added to direction.

Per. If numerals 2 through 9 are entered, period in seconds is twice the numeric entry or $2 \times (\text{numeric entry}) + 1$. For other entries see WMO Code 3155.

Sea Sea state according to WMO Code 3700.

Weather code If preceded by X, weather according to WMO Code 4501. If a two-digit entry, weather according to WMO Code 4677.

Cloud code:

Type ----- Cloud type according to WMO Code 0500.
 Amount ----- Cloud amount in eighths. Entry of the numeral 9 indicates cloud amount could not be estimated.

Water:

Color code ----- Color according to Forel-Ule scale.
 Trans. ----- Transparency in whole meters as determined by Secchi disc.

Wind:

Dir. ----- Rounded to nearest multiple of 10 degrees.
 Speed or force ----- If preceded by letter S, wind speed in knots; if preceded by letter F, wind force according to Beaufort scale.

Barometer ----- Barometric pressure given in tens, units and tenths of millibars.

Air temp. C ----- Air temperature to tenths of a degree Celsius.

Vis. code ----- Visibility according to WMO Code 4300.

No obs. depths ----- Number of observed levels associated with the station.

Messenger time ----- Entered in hours and tenths of an hour GMT. For Nansen casts, indicates time of release of messenger applicable to the observational level. For STD casts, indicates the starting time of lowering the sensor.

Card type ----- OBS designates observed levels. STD indicates the values at this standard level were interpolated by a modified 3-point LaGrange formula.

Depth (m) ----- Depth to nearest meter. A postscript T indicates depth was obtained thermometrically; Z indicates uncorrected "wire out" depth. Postscript Q indicates value was marked doubtful by originator; P indicates value was considered doubtful by NODC. Postscripts P and Q retain this meaning throughout the following entries.

T °C ----- Temperature to hundredths of a degree Celsius.

S ‰ ----- Salinity in parts per thousand.

Sigma-T ----- Entered to hundredths.

Specific-volume ----- Multiply entry by 10^{-7} to obtain specific-volume anomaly in cubic centimeters per gram.

$\Sigma \Delta D$ Dyn. M $\cdot 10^3$ ----- Multiply entry by 10^{-3} to obtain anomaly of dynamic depth in dynamic meters referenced to the sea surface.

Sound velocity ----- Sound velocity according to Wilson's formula entered to tenths of a meter per second.

TABLE I.—Observed and interpolated oceanographic data for stations taken by USCGC CASTLE ROCK at Ocean Station ECHO, 28 November–11 December 1967, prepared from NODC listing No. 31–1181

REFERENCE CITY CODE	ID. NO.	SHIP CODE	LATITUDE ° ' 10	LONGITUDE ° ' 10	DRIFT MILES	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
							10"	1"	MO DAY HR, 10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		TYPE	AMT	
311181		CK	3513 N	04820 W		113	58	11	28	136	1967	E07	001	4297	14	16	2	5		8 3	0001
						WATER		WIND		BARO- METER		AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mba)	DRY BULB	WET BULB									
									20	S16	193	217	194	8	14						
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	S Δ D DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	Si O ₄ -Si μg - at/l	pH	S C.C.				
		STD	0000	2209	3637	2525	0027308	0000	15292												
136		OBS	0000	2209	36365	2525			15292												
		STD	0010	2210	3636	2524	0027405	0027	15294												
		STD	0020	2211	3636	2524	0027468	0055	15296												
136		OBS	0024	2211	36359	2524			15297												
		STD	0030	2210	3636	2524	0027502	0082	15297												
136		OBS	0048	2208	36356	2524			15300												
		STD	0050	2208	3636	2524	0027543	0137	15300												
136		OBS	0072	2209	36361	2524			15304												
		STD	0075	2199	3641	2531	0027005	0206	15303												
136		OBS	0095	2120	36612	2568			15288												
		STD	0100	2088	3661	2577	0022723	0268	15280												
		STD	0125	1958	3659	2610	0019642	0321	15249												
136		OBS	0129	1942	36588	2614			15245												
		STD	0150	1907	3656	2621	0018683	0369	15239												
136		OBS	T0188	1852	36521	2632			15229												
		STD	0200	1847	3652	2634	0017684	0459	15229												
		STD	0250	1820	3652	2640	0017208	0547	15230												
		STD	0300	1783	3648	2646	0016784	0632	15227												
136		OBS	T0359	1727	36395	2654			15219												
		STD	0400	1681	3630	2657	0016029	0796	15211												
136		OBS	0453	1608	36164	2664			15196												
		STD	0500	1530	3602	2671	0014973	0951	15178												
136		OBS	0544	1449	35884	2678			15158												
		STD	0600	1307	3566	2691	0013179	1091	15118												
		STD	0700	1085	3536	2710	0011343	1214	15054												
136		OBS	0729	1028	35293	2715			15037												
		STD	0800	0912	3524	2731	0009390	1318	15006												
		STD	0900	0768	3517	2748	0007741	1403	14967												
136		OBS	0920	0742	35162	2751			14961												
		STD	1000	0646	3510	2759	0006559	1475	14935												
		STD	1100	0550	3504	2767	0005760	1537	14913												
136		OBS	1171	0498	35015	2771			14903												
		STD	1200	0480	3501	2773	0005126	1591	14901												
		STD	1300	0437	3500	2777	0004739	1640	14899												
		STD	1400	0420	3499	2778	0004685	1687	14909												
136		OBS	T1427	0420	34988	2778			14913												

REFERENCE		SHIP CODE	LATITUDE ° ' 10"	LONGITUDE ° ' 10"	DATE MM DD YY	MAPSHEET SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CRUISE CODE	ID. NO.					10"	1"	MO	DAY		HR. L 10	CRUISE NO.			STATION NUMBER	DIR	WGT		PER	SEA		TYPE
311181		CK	34010N	049120W	11349	11	29	175	1967	E07	002		4938	10	22	2	2			7	6	0002

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (%)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		10	527	112	200	183	6	12	

MESSENGER TIME OF HR. T:10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. Y 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - dl/l	TOTAL-P µg - dl/l	NO ₂ -N µg - dl/l	NO ₃ -N µg - dl/l	SIO ₄ -Si µg - dl/l	pH	1 C
		STD	0000	2178	3625	2525	0027303	0000	15283								
175		OBS	0000	2178	36251	2525			15283								
		STD	0010	2177	3626	2526	0027271	0027	15285								
		STD	0020	2175	3626	2527	0027206	0055	15286								
175		OBS	0022	2174	36265	2527			15286								
		STD	0030	2170	3625	2527	0027212	0082	15286								
175		OBS	0045	2162	36243	2529			15286								
		STD	0050	2159	3625	2530	0027015	0136	15286								
175		OBS	0068	2150	36270	2534			15287								
		STD	0075	2108	3633	2550	0025172	0201	15278								
175		OBS	0089	2027	36413	2578			15260								
		STD	0100	1954	3640	2597	0020825	0259	15242								
		STD	0125	1827	3639	2629	0017881	0307	15210								
175		OBS	0134	1796	36389	2636			15202								
		STD	0150	1779	3640	2641	0016754	0350	15200								
175		OBS	10179	1749	36402	2649			15196								
		STD	0200	1733	3638	2651	0015991	0432	15195								
		STD	0250	1688	3631	2657	0015626	0511	15189								
		STD	0300	1635	3622	2662	0015235	0588	15180								
175		OBS	10348	1576	36122	2668			15168								
		STD	0400	1504	3599	2674	0014323	0736	15153								
175		OBS	0430	1458	35914	2679			15142								
		STD	0500	1339	3575	2691	0012901	0872	15113								
175		OBS	0514	1313	35714	2694			15106								
		STD	0600	1105	3542	2711	0011041	0992	15045								
175		OBS	0679	0940	35216	2724			14996								
		STD	0700	0900	3520	2730	0009256	1094	14985								
		STD	0800	0737	3515	2750	0007257	1176	14939								
		STD	0900	0615	3509	2763	0006028	1243	14906								
		STD	1000	0533	3504	2769	0005433	1300	14889								
175		OBS	11008	0528	35031	2769			14888								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.					10"	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DR	HGT	PER		TYPE	TAMT	
311181		CK	34040N	048120W	113	48	12	01	129	1967	E07	003	4663	17	20	3	3		8	13	0003
WATER		WIND		BARO- METER (mbal)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS												
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB															
				20	512	152		194	167	7	14										
MESSENGER TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S °C	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°	S Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C C				
		STD	0000	2174	3637	2535	0026358	0000	15283												
129		OBS	0000	2174	36367	2535			15283												
		STD	0010	2175	3637	2534	0026433	0026	15285												
		STD	0020	2176	3636	2534	0026516	0053	15287												
129		OBS	0027	2177	36363	2534			15289												
		STD	0030	2177	3636	2534	0026580	0079	15289												
		STD	0050	2176	3636	2534	0026628	0133	15292												
129		OBS	0053	2176	36364	2534			15293												
		STD	0075	2175	3636	2534	0026684	0199	15296												
129		OBS	0085	2174	36364	2535			15297												
		STD	0100	2070	3648	2572	0023195	0262	15274												
129		OBS	0107	2029	36523	2586			15265												
		STD	0125	1961	3652	2604	0020223	0316	15249												
		STD	0150	1886	3652	2624	0018457	0364	15232												
129		OBS	0161	1861	36517	2630			15227												
		STD	0200	1820	3650	2639	0017178	0453	15221												
129		OBS	0217	1803	36489	2642			15219												
		STD	0250	1796	3648	2643	0016922	0539	15222												
		STD	0300	1772	3645	2647	0016740	0623	15223												
		STD	0400	1677	3629	2658	0016009	0786	15210												
129		OBS	T0435	1629	36208	2663			15200												
		STD	0500	1521	3600	2671	0014921	0941	15175												
129		OBS	0544	1429	35848	2680			15151												
		STD	0600	1273	3562	2695	0012791	1080	15106												
129		OBS	T0652	1139	35444	2707			15066												
		STD	0700	1014	3533	2720	0010286	1195	15028												
		STD	0800	0802	3516	2742	0008177	1287	14964												
129		OBS	0871	0692	35081	2751			14932												
		STD	0900	0672	3508	2754	0006940	1363	14929												
		STD	1000	0608	3508	2763	0006155	1428	14920												
129		OBS	T1086	0559	35077	2769			14915												
		STD	1100	0551	3507	2769	0005554	1487	14914												
		STD	1200	0502	3504	2773	0005218	1541	14910												
		STD	1300	0462	3501	2775	0005006	1592	14910												
129		OBS	1367	0441	34998	2776			14912												
		STD	1400	0432	3499	2777	0004852	1641	14914												
		STD	1500	0411	3498	2778	0004740	1689	14922												
129		OBS	T1652	0396	34969	2779			14941												

REFERENCE		SHIP CODE	LATITUDE ° ' "/10	LONGITUDE ° ' "/10	DATE MO DAY HR. /10	MAPS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10'	1'	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		TYPE	AMT	

311	181	CK	35180N	048080W	113 58 12 04 179	1967	E07	004		2835	15	33	4	2				18	8	14	0004
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WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FOUR		DRY BULB	WET BULB			
		32	522	983	183	161	7	12	

32	522	983	183	161	7	13			
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MESSENGER TIME OF HR. /10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Sigma \Delta$ D. DYN. M $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SIO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C
		STD	0000	2117	3642	2554	0024494	0000	15269								
179	OBS	0000	2117	36417	2554				15269								
	STD	0010	2118	3642	2554	0024573	0025	15271									
	STD	0020	2119	3641	2554	0024647	0049	15273									
179	OBS	0029	2120	36412	2553			15275									
	STD	0030	2120	3641	2553	0024723	0074	15275									
	STD	0050	2120	3641	2553	0024850	0123	15278									
179	OBS	0057	2118	36402	2553			15279									
	STD	0075	2109	3641	2556	0024614	0185	15279									
179	OBS	0086	2104	36418	2558			15280									
	STD	0100	2021	3652	2588	0021647	0243	15261									
179	OBS	0115	1949	36587	2612			15245									
	STD	0125	1929	3658	2617	0018992	0294	15241									
	STD	0150	1881	3655	2627	0018117	0340	15231									
179	OBS	0172	1842	36522	2635			15223									
	STD	0200	1823	3649	2637	0017323	0429	15222									
	STD	0250	1784	3644	2643	0016926	0514	15219									
	STD	0300	1738	3637	2649	0016517	0598	15212									
	STD	0400	1625	3620	2663	0015474	0758	15193									
179	OBS	T0462	1541	36070	2672			15176									
	STD	0500	1479	3595	2677	0014373	0907	15161									
	STD	0600	1307	3568	2692	0013034	1044	15118									
179	OBS	T0691	1138	35452	2708			15072									
	STD	0700	1113	3543	2710	0011349	1166	15065									
	STD	0800	0866	3520	2735	0008916	1268	14988									
	STD	0900	0680	3504	2750	0007352	1349	14931									
179	OBS	0931	0634	35005	2753			14918									
	STD	1000	0581	3500	2760	0006359	1417	14908									
	STD	1100	0517	3500	2768	0005600	1477	14899									
179	OBS	T1180	0477	34993	2772			14896									
	STD	1200	0469	3499	2772	0005140	1531	14896									
	STD	1300	0436	3499	2776	0004806	1581	14899									
	STD	1400	0418	3498	2777	0004739	1628	14908									
179	OBS	1488	0416	34980	2777			14922									

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY HR 1/10	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NDC STATION NUMBER	
CTRY CODE	IO. NO.						10"	1"	MO	DAY	HR 1/10	CRUISE NO.	STATION NUMBER		DIR	HGT	PER	SEA	TYPE	AMT		
311	181	CK	34440N	048080W	113 48 12 05	174	1967		E07	005		4462	15	25	1	2		18	8	5		0005
WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS												
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS CODE																
		25	510	058	194	172	7	14														
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t °	Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SIO ₄ -Si μg - at/l	pH	1 CCT					
		STD	0000	2084	3616	2544	0025509	0000	15257													
174		OBS	0000	2084	36158	2544			15257													
		STD	0010	2083	3616	2544	0025521	0026	15259													
		STD	0020	2082	3616	2544	0025532	0051	15260													
174		OBS	0026	2081	36158	2545			15261													
		STD	0030	2081	3616	2545	0025539	0077	15262													
		STD	0050	2080	3616	2545	0025593	0128	15265													
174		OBS	0051	2080	36158	2545			15265													
		STD	0075	2098	3627	2549	0025331	0191	15275													
174		OBS	0077	2099	36276	2549			15275													
		STD	0100	1845	3634	2621	0018559	0246	15210													
174		OBS	0102	1829	36350	2625			15206													
		STD	0125	1784	3636	2637	0017062	0291	15197													
		STD	0150	1740	3637	2649	0016029	0332	15188													
174		OBS	0154	1734	36376	2650			15187													
		STD	0200	1672	3628	2658	0015313	0410	15175													
174		OBS	T0206	1664	36262	2659			15174													
		STD	0250	1595	3614	2665	0014761	0486	15158													
		STD	0300	1523	3602	2672	0014212	0558	15143													
174		OBS	T0392	1404	35832	2684			15118													
		STD	0400	1400	3583	2685	0013289	0696	15118													
174		OBS	0487	1302	35690	2694			15098													
		STD	0500	1268	3563	2696	0012357	0824	15088													
174		OBS	T0584	1067	35318	2710			15028													
		STD	0600	1031	3529	2714	0010660	0939	15017													
		STD	0700	0834	3516	2737	0008505	1035	14959													
174		OBS	0783	0713	35095	2750			14926													
		STD	0800	0699	3510	2752	0007075	1113	14923													
		STD	0900	0624	3509	2761	0006163	1179	14910													
174		OBS	0974	0577	35089	2767			14903													
		STD	1000	0563	3508	2768	0005521	1237	14902													
		STD	1100	0514	3505	2772	0005192	1291	14898													
		STD	1200	0474	3503	2775	0004913	1341	14898													
174		OBS	1225	0465	35020	2775			14899													
		STD	1300	0442	3500	2776	0004812	1390	14902													
		STD	1400	0418	3498	2777	0004739	1438	14908													
174		OBS	T1472	0406	34970	2778			14915													

REFERENCE CRUISE CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° 10'	LONGITUDE ° 10'	GMT INDIC	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
							MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311181	CK		34370N	048120W		113	48	12	07	134	1967	E07 006	7664	16	26	1	3		16	8	8	0006
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB			

		25	513	885	194	170	7	14	
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MESSNGR TIME HR 1-10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	Δ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{ml}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₂ -N $\mu\text{g} \cdot \text{ml}^{-1}$	SiO ₄ -Si $\mu\text{g} \cdot \text{ml}^{-1}$	pH	S C
		STD	0000	2080	3614	2544	0025529	0000	15256								
134		OBS	0000	2080	36141	2544			15256								
		STD	0010	2079	3614	2544	0025548	0026	15258								
		STD	0020	2079	3614	2544	0025565	0051	15259								
134		OBS	0027	2078	36141	2544			15260								
		STD	0030	2078	3614	2544	0025579	0077	15261								
		STD	0050	2077	3615	2545	0025604	0128	15264								
134		OBS	0053	2077	36147	2545			15264								
		STD	0075	2077	3615	2545	0025688	0192	15268								
134		OBS	0080	2077	36147	2545			15269								
		STD	0100	2051	3625	2560	0024366	0255	15266								
134		OBS	0105	2041	36277	2564			15265								
		STD	0125	1943	3637	2597	0020859	0311	15242								
		STD	0150	1851	3645	2627	0018112	0360	15221								
134		OBS	0158	1829	36464	2634			15217								
		STD	0200	1786	3646	2644	0016643	0447	15211								
134		OBS	T0213	1772	36461	2648			15209								
		STD	0250	1739	3640	2651	0016155	0529	15205								
		STD	0300	1688	3631	2657	0015790	0609	15197								
		STD	0400	1560	3609	2669	0014820	0762	15172								
134		OBS	T0421	1529	36043	2673			15165								
		STD	0500	1400	3584	2685	0013501	0903	15134								
134		OBS	0525	1353	35766	2690			15122								
		STD	0600	1185	3552	2704	0011807	1030	15074								
134		OBS	T0626	1128	35445	2709			15058								
		STD	0700	0941	3526	2727	0009534	1136	15001								
		STD	0800	0745	3509	2745	0007804	1223	14941								
134		OBS	0834	0693	35048	2749			14926								
		STD	0900	0636	3505	2757	0006629	1295	14914								
		STD	1000	0565	3506	2766	0005718	1357	14902								
134		OBS	T1044	0540	35059	2770			14900								
		STD	1100	0523	3506	2771	0005278	1412	14902								
		STD	1200	0494	3505	2774	0005051	1464	14907								
		STD	1300	0466	3504	2777	0004825	1513	14912								
134		OBS	1321	0461	35040	2777			14913								
		STD	1400	0441	3503	2779	0004679	1561	14918								
		STD	1500	0418	3500	2779	0004687	1607	14925								
134		OBS	T1597	0397	34973	2779			14932								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARSEEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CIR- CODE	ID. NO.						10"	1"	MO DAY HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA	TYPE	AMT		
311181	181	CK	35000N	048090W	113	58	12	10	170	1967	E07	007	4078	15	32	1	2		8	3	0007	
						WATER		WIND		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS								
						COLOR CODE	TRANL. (M)	DIR.	SPEED OR FORCE	BARO-METER (MB)	DRY BULB	WET BULB	VIS. CODE									
									25	510	193	194	161	7	14							
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S °..	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - σt/l	TOTAL-P μg - σt/l	NO ₂ -N μg - σt/l	NO ₃ -N μg - σt/l	SiO ₄ -Si μg - σt/l	pH	S C					
		STD	0000	2085	3632	2556	0024349	0000	15260													
170		OBS	0000	2085	36322	2556			15260													
		STD	0010	2085	3632	2556	0024386	0024	15261													
		STD	0020	2085	3632	2556	0024424	0049	15263													
170		OBS	0025	2085	36322	2556			15264													
		STD	0030	2085	3632	2556	0024467	0073	15265													
		STD	0050	2086	3632	2556	0024548	0122	15268													
170		OBS	0051	2086	36324	2556			15268													
		STD	0075	2078	3633	2558	0024399	0183	15270													
170		OBS	0076	2078	36330	2558			15270													
		STD	0100	2073	3639	2564	0023922	0244	15274													
170		OBS	0101	2072	36392	2565			15274													
		STD	0125	1963	3647	2599	0020664	0300	15249													
		STD	0150	1884	3654	2626	0018234	0348	15232													
170		OBS	0152	1879	36550	2628			15231													
		STD	0200	1833	3654	2639	0017173	0437	15226													
170		OBS	T0204	1829	36543	2640			15225													
		STD	0250	1825	3648	2636	0017639	0524	15231													
		STD	0300	1794	3640	2638	0017596	0612	15229													
170		OBS	T0399	1648	36261	2662			15200													
		STD	0400	1645	3626	2663	0015493	0777	15200													
170		OBS	0499	1387	35769	2683			15129													
		STD	0500	1384	3577	2683	0013706	0923	15128													
		STD	0600	1125	3544	2709	0011271	1048	15053													
170		OBS	T0603	1118	35429	2709			15050													
		STD	0700	0912	3527	2733	0008973	1149	14990													
170		OBS	0797	0745	35147	2749			14941													
		STD	0800	0741	3514	2749	0007376	1231	14940													
		STD	0900	0615	3506	2760	0006263	1299	14906													
170		OBS	T0994	0529	35005	2767			14886													
		STD	1000	0527	3501	2767	0005580	1359	14886													
		STD	1100	0496	3500	2770	0005288	1413	14890													
		STD	1200	0469	3500	2773	0005045	1465	14896													
170		OBS	1248	0458	35003	2775			14899													
		STD	1300	0447	3500	2775	0004901	1514	14904													
		STD	1400	0427	3499	2777	0004822	1563	14912													
		STD	1500	0412	3497	2777	0004805	1611	14922													
170		OBS	T1510	0411	34972	2777			14923													

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TABLE II.—Observed and interpolated oceanographic data for stations taken by USCGC HUMBOLDT at Ocean Station ECHO, 10 January–1 February 1968, prepared from NODC listing No. 31–1203

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARKS SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		WDC STATION NUMBER	
					10°	1°	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
311203	HU	3500 N	04800 W	113	58	01	10	142	1968	E08	001	4883	15	32			3	X1	3	6	0001	
				WATER		WIND		AIR TEMP. °C		BARO- METER (mb)		NO. OBS. DEPTH		SPECIAL OBSERVATIONS								
				COLOR CODE	TRANS- MIT	DIR.	SPEED OR FORCE					DRY BULB	WET BULB	VIS CODE								
								22	510	237	178	167	14									
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	S Δ σ _t DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -Si μg - ml/l	pH	STATION NUMBER					
		STD	0000	1864	3640	2620	0018250	0000	15200													
142		OBS	0000	1864	3640	2620			15200													
		STD	0010	1866	3640	2620	0018336	0018	15202													
		STD	0020	1868	3640	2619	0018430	0037	15204													
142		OBS	0024	1869	3640	2619			15205													
		STD	0030	1869	3640	2619	0018484	0055	15206													
142		OBS	0047	1868	3640	2619			15209													
		STD	0050	1868	3640	2619	0018531	0092	15209													
142		OBS	0072	1866	3640	2620			15212													
		STD	0075	1866	3640	2620	0018555	0139	15213													
142		OBS	0096	1865	3640	2620			15216													
		STD	0100	1858	3642	2623	0018322	0185	15215													
		STD	0125	1818	3648	2638	0017014	0229	15208													
142		OBS	0144	1796	3650	2645			15205													
		STD	0150	1794	3650	2645	0016384	0271	15206													
142		OBS	0193	1772	36476	2649			15206													
		STD	0200	1764	3646	2650	0016137	0352	15205													
		STD	0250	1703	3635	2656	0015681	0431	15194													
		STD	0300	1636	3622	2662	0015257	0509	15180													
142		OBS	T0387	1504	35988	2674			15151													
		STD	0400	1483	3594	2675	0014235	0656	15146													
142		OBS	0484	1334	35695	2688			15108													
		STD	0500	1302	3565	2691	0012884	0792	15099													
142		OBS	T0587	1126	35456	2710			15051													
		STD	0600	1092	3543	2714	0010731	0910	15041													
		STD	0700	0868	3526	2739	0008320	1005	14973													
142		OBS	0779	0737	35166	2752			14935													
		STD	0800	0719	3516	2754	0006896	1081	14932													
		STD	0900	0637	3514	2764	0005990	1146	14916													
142		OBS	T0969	0588	35116	2768			14907													
		STD	1000	0567	3509	2769	0005503	1203	14904													
		STD	1100	0507	3503	2771	0005244	1257	14895													
		STD	1200	0461	3499	2773	0005034	1308	14893													
142		OBS	1234	0448	34978	2774			14893													
		STD	1300	0428	3498	2776	0004804	1357	14895													
		STD	1400	0408	3497	2778	0004666	1405	14904													
142		OBS	T1493	0402	34968	2778			14917													

REFERENCE	SHIP ID. NO.	SHIP CODE	LATITUDE °	LONGITUDE °	DEPTH METER	MARS DEN SQUARE		STATION TIME GMT		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
						10"	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
311203	HU		3458 N	04758 W		113	47	01	11	129	1968	E08 002	4096	12	28	5	3		X8	6	18	0002
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
								29	511	213	170	170	8	14								
MESSNGR TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - ml/l$	TOTAL-P $\mu g - ml/l$	NO ₂ -N $\mu g - ml/l$	NO ₃ -N $\mu g - ml/l$	SiO ₄ -Si $\mu g - ml/l$	pH	S C					
		STD	0000	1842	3639	2625	0017772	0000	15194													
099		OBS	0000	1842	36394	2625			15194													
		STD	0010	1843	3640	2625	0017824	0018	15196													
099		OBS	0015	1844	36395	2625			15197													
		STD	0020	1844	3640	2625	0017876	0036	15198													
		STD	0030	1844	3640	2625	0017904	0054	15199													
099		OBS	0047	1844	36399	2625			15202													
		STD	0050	1844	3640	2625	0017965	0089	15203													
099		OBS	0071	1846	36396	2624			15206													
		STD	0075	1845	3640	2625	0018094	0134	15207													
099		OBS	0094	1844	36394	2625			15210													
		STD	0100	1845	3640	2625	0018180	0180	15211													
		STD	0125	1847	3640	2624	0018294	0225	15216													
099		OBS	0137	1848	36401	2624			15218													
		STD	0150	1830	3643	2631	0017751	0270	15215													
099		OBS	T0180	1793	36482	2644			15210													
		STD	0200	1778	3646	2646	0016460	0356	15209													
		STD	0250	1741	3641	2651	0016132	0437	15206													
		STD	0300	1705	3636	2656	0015809	0517	15202													
099		OBS	T0336	1678	36323	2660			15200													
		STD	0400	1547	3607	2671	0014679	0670	15167													
099		OBS	0411	1523	36031	2673			15161													
099		OBS	T0487	1338	35734	2690			15110													
		STD	0500	1311	3569	2692	0012773	0807	15103													
		STD	0600	1110	3542	2710	0011133	0927	15047													
099		OBS	0642	1031	35331	2718			15025													
		STD	0700	0923	3523	2728	0009450	1029	14994													
099		OBS	0794	0772	35107	2742			14951													
		STD	0800	0763	3510	2743	0008007	1117	14948													
		STD	0900	0635	3505	2757	0006622	1190	14914													
099		OBS	0987	0555	35025	2765			14896													
		STD	1000	0545	3503	2766	0005677	1251	14894													
		STD	1100	0493	3503	2772	0005093	1305	14889													
099		OBS	T1178	0478	35025	2774			14896													

REFERENCE CITY CODE	ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	WAVE DIRECTION	MASSOEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD COVER		NODC STATION NUMBER	
						10"	1"	MO	DAY	HR	1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT		
311203		HU	35035N	04800 W		113	58	01	12	195	1968	E08	003		4316	15	26	5	3		X6	5	18	0003
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS- (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB											
								26	518	112		172	171	7	14									
MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S Δ D DYN. M x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₃ -N μg - dl/l	NO ₂ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S CODE							
		STD	0000	1838	3635	2623	0017988	0000	15192															
195		OBS	0000	1838	36351	2623			15192															
		STD	0010	1839	3635	2623	0018023	0018	15194															
		STD	0020	1839	3636	2623	0018058	0036	15196															
		STD	0030	1840	3636	2623	0018093	0054	15198															
195		OBS	0034	1840	36358	2623			15198															
195		OBS	0049	1835	36366	2625			15199															
		STD	0050	1835	3637	2625	0017955	0090	15200															
195		OBS	0074	1835	36383	2626			15204															
		STD	0075	1835	3638	2626	0017948	0135	15204															
195		OBS	0098	1836	36382	2626			15208															
		STD	0100	1836	3638	2626	0018065	0180	15208															
		STD	0125	1834	3638	2626	0018167	0225	15212															
195		OBS	0147	1833	36370	2626			15215															
		STD	0150	1820	3636	2628	0018018	0271	15212															
		STD	0200	1633	3621	2662	0014910	0353	15163															
195		OBS	T0200	1633	36214	2662			15163															
		STD	0250	1570	3611	2669	0014427	0426	15150															
		STD	0300	1500	3601	2677	0013790	0497	15135															
195		OBS	T0396	1344	35767	2691			15098															
		STD	0400	1337	3575	2692	0012586	0629	15096															
195		OBS	0490	1164	35498	2706			15049															
		STD	0500	1141	3547	2708	0011101	0747	15042															
195		OBS	T0584	0962	35256	2724			14989															
		STD	0600	0930	3523	2727	0009365	0849	14980															
		STD	0700	0759	3511	2744	0007703	0935	14930															
195		OBS	0787	0647	35041	2754			14900															
		STD	0800	0636	3504	2756	0006566	1006	14898															
		STD	0900	0564	3503	2764	0005774	1068	14885															
195		OBS	T0983	0518	35020	2769			14880															
		STD	1000	0514	3502	2770	0005303	1123	14881															
		STD	1100	0491	3502	2772	0005133	1175	14889															
		STD	1200	0468	3501	2774	0004966	1226	14896															
195		OBS	1249	0457	35010	2775			14899															
		STD	1300	0446	3501	2777	0004792	1275	14903															
		STD	1400	0424	3499	2777	0004745	1322	14911															
		STD	1500	0403	3498	2779	0004634	1369	14919															
195		OBS	T1528	0397	34971	2779			14921															

REFERENCE STATION ID NO	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MAGNETIC SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
					10'	1'	MO DAY HR, L 10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		TITLE	AMT	

311203	HU	35075N	048155W	113	58	01	13 099	1968	E08	004	4426	12	01	2	2		X8	5	6	0004
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WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS
COLOR CODE	TRANS DIR	DIR	SPEED OR FORCE		DRY BULB	WET BULB			

			30	S07	166	12	12	8	14
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MESSENGER TIME OF HP 1/10	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	$\Sigma \Delta \rho$ OYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	TOTAL-P µg - at/l	NO ₂ -N µg - at/l	NO ₃ -N µg - at/l	SIO ₄ -Si µg - at/l	pH	S °C
		STD	0000	1851	3644	2626	0017668	0000	15197								
099		OBS	0000	1851	36438	2626			15197								
		STD	0010	1852	3644	2626	0017716	0018	15199								
		STD	0020	1852	3644	2626	0017761	0035	15200								
099		OBS	0022	1852	36438	2626			15201								
		STD	0030	1853	3644	2626	0017816	0053	15202								
099		OBS	0043	1854	36440	2626			15205								
		STD	0050	1854	3644	2626	0017903	0089	15206								
099		OBS	0065	1853	36440	2626			15208								
		STD	0075	1853	3644	2626	0017961	0134	15210								
099		OBS	0086	1853	36442	2626			15211								
		STD	0100	1853	3644	2626	0018042	0179	15214								
		STD	0125	1853	3644	2626	0018130	0224	15218								
099		OBS	0129	1853	36442	2626			15219								
		STD	0150	1834	3648	2634	0017485	0269	15217								
099		OBS	T0177	1810	36502	2641			15215								
		STD	0200	1801	3650	2644	0016724	0354	15216								
		STD	0250	1768	3646	2649	0016402	0437	15214								
		STD	0300	1718	3637	2654	0016050	0518	15207								
099		OBS	T0341	1663	36278	2660			15196								
		STD	0400	1561	3608	2668	0014914	0673	15172								
099		OBS	0417	1530	36029	2672			15164								
099		OBS	T0493	1387	35794	2685			15128								
		STD	0500	1378	3578	2685	0013481	0815	15126								
		STD	0600	1222	3556	2700	0012227	0943	15088								
097		OBS	0647	1131	35451	2709			15063								
		STD	0700	0947	3530	2723	0010032	1055	15018								
099		OBS	T0788	0794	35117	2739			14958								
		STD	0800	0778	3511	2741	0008152	1146	14954								
		STD	0900	0657	3507	2756	0006764	1220	14923								
		STD	1000	0563	3504	2765	0005851	1283	14901								
099		OBS	1005	0559	35033	2765			14901								
		STD	1100	0494	3501	2771	0005217	1339	14890								
		STD	1200	0452	3499	2774	0004416	1389	14889								
097		OBS	T1230	0444	34982	2775			14890								

REFERENCE		SHIP CODE	LATITUDE ° ' / 10	LONGITUDE ° ' / 10	DEPT. MOOR	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE CODE	IO. NO.					10"	1"	MO	DAY HR. / 10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA	TYPE	AMT	
311203	HU	3503 N	04825 W	113	58	01	14	130	1968	E08	005	4444	15	34	2	3	X1	8	2	0005	
WATER		WIND		BARO-METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS												
COLOR CODE	TRANSP. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB															
		33	S17	291	16	1	8	14													
MESSAGE TIME OF HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S. ‰	SIGMA-T	SPECIFIC VOLUME AND MALT-107	$\Sigma \Delta \sigma$ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - dl/l	TOTAL P µg - dl/l	NO ₂ -N µg - dl/l	NO ₃ -N µg - dl/l	SiO ₄ -Si µg - dl/l	pH	S.C.C.				
		STO	0000	1841	3647	2631	0017196	0000	15194												
130		OBS	0000	1841	36470	2631			15194												
		STO	0010	1842	3647	2631	0017260	0017	15196												
		STO	0020	1843	3647	2631	0017322	0035	15198												
130		OBS	0026	1844	36467	2630			15199												
		STO	0030	1844	3647	2630	0017396	0052	15200												
130		OBS	0042	1844	36468	2630			15202												
		STO	0050	1844	3647	2630	0017467	0087	15203												
		STO	0075	1844	3647	2630	0017570	0131	15207												
130		OBS	0078	1844	36465	2630			15208												
		STO	0100	1844	3646	2630	0017687	0175	15211												
130		OBS	0106	1844	36460	2630			15212												
		STO	0125	1844	3646	2630	0017768	0219	15216												
		STO	0150	1844	3646	2630	0017841	0263	15220												
130		OBS	0160	1844	36465	2630			15221												
		STO	0200	1795	3648	2643	0016726	0350	15214												
130		OBS	T0213	1780	36485	2648			15212												
		STO	0250	1774	3648	2649	0016399	0433	15216												
		STO	0300	1751	3644	2651	0016316	0514	15217												
		STO	0400	1647	3625	2662	0015611	0674	15200												
130		OBS	0418	1620	36205	2664			15194												
		STO	0500	1461	3592	2678	0014206	0823	15155												
130		OBS	0519	1425	35858	2681			15146												
		STO	0600	1280	3567	2697	0012566	0957	15109												
130		OBS	0616	1248	35626	2700			15100												
		STO	0700	1010	3532	2720	0010289	1071	15027												
		STO	0800	0791	3508	2737	0008590	1166	14958												
130		OBS	0808	0776	35071	2739			14954												
		STO	0900	0657	3505	2754	0006940	1243	14923												
130		OBS	T0990	0566	35035	2764			14901												
		STO	1000	0560	3503	2765	0005847	1307	14900												
		STO	1100	0510	3502	2770	0005358	1363	14896												
		STO	1200	0470	3501	2774	0005007	1415	14896												
130		OBS	1262	0450	34998	2775			14898												
		STO	1300	0440	3499	2776	0004859	1464	14901												
		STO	1400	0419	3499	2778	0004679	1512	14909												
		STO	1500	0409	3498	2778	0004713	1559	14921												
130		OBS	T1538	0408	34976	2778			14927												

REFERENCE		SNIP CODE	LATITUDE 1/10	LONGITUDE 1/10	WAVE INDIC	MARSEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311203	HU		3501 N	04758 W		113	57	01	15	132	1968	E08	006		4243	16	33	3	3		X1	8	7	0006
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

		31	S08	362	175	169	7	14	
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MESSNGR TIME OF HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Delta \rho$ OYN. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₂ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SIO ₄ -Si $\mu g \cdot dl/l$	pH	S OC
		STD	0000	1807	3627	2625	0017817	0000	15182								
132		OBS	0000	1807	36273	2625			15182								
		STD	0010	1807	3627	2624	0017884	0018	15184								
		STD	0020	1808	3627	2624	0017928	0036	15186								
132		OBS	0026	1808	36269	2624			15187								
		STD	0030	1809	3627	2624	0017982	0054	15188								
		STD	0050	1812	3627	2623	0018127	0090	15192								
132		OBS	0051	1812	36271	2623			15192								
		STD	0075	1807	3628	2625	0018032	0135	15195								
132		OBS	0076	1807	36281	2625			15195								
		STD	0100	1806	3630	2627	0017982	0180	15199								
132		OBS	0101	1805	36296	2627			15198								
		STD	0125	1749	3631	2642	0016596	0223	15186								
		STD	0150	1698	3633	2656	0015371	0263	15176								
132		OBS	0152	1694	36332	2657			15175								
		STD	0200	1617	3619	2664	0014727	0338	15158								
132		OBS	T0204	1611	36181	2665			15156								
		STD	0250	1549	3608	2671	0014186	0411	15143								
		STD	0300	1480	3597	2678	0013654	0480	15129								
		STD	0400	1338	3575	2691	0012606	0612	15096								
132		OBS	T0412	1320	35724	2693			15092								
		STD	0500	1190	3554	2705	0011508	0732	15060								
132		OBS	0510	1173	35515	2706			15055								
		STD	0600	0997	3531	2722	0009919	0839	15005								
132		OBS	T0613	0974	35287	2724			14999								
		STD	0700	0851	3521	2738	0008411	0931	14966								
		STD	0800	0725	3514	2751	0007134	1009	14934								
132		OBS	0817	0705	35126	2753			14929								
		STD	0900	0608	3508	2763	0006017	1074	14903								
		STD	1000	0520	3503	2770	0005302	1131	14884								
132		OBS	T1012	0511	35029	2771			14882								
		STD	1100	0484	3502	2773	0005010	1183	14886								
		STD	1200	0457	3501	2775	0004835	1232	14891								
132		OBS	1281	0438	34996	2776			14897								
		STD	1300	0434	3499	2776	0004780	1280	14898								
		STD	1400	0414	3498	2778	0004687	1327	14906								
		STD	1500	0397	3497	2779	0004628	1374	14916								
132		OBS	T1556	0389	34970	2780			14922								

REFERENCE		SHIP CODE	LATITUDE " 1/10	LONGITUDE " 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CITY CODE	ID. NO.					10"	1"	MO	DAY	HR	1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	
311203	HU		3500 N	04808 W		113	58	01	15	183	1968	E08	007		4206	39	33	3	3		X2	1	2	0007
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mb)	DRY BULB	WET BULB												
									30	503	362	178	168	8	14									
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ D DYN. M. $\times 10^3$		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C					
183		OBS	T1878	0376	34964	2780																		
		STD	2000	0364	3497	2782	0004604					14983												
183		OBS	2365	0330	34975	2786						15031												
		STD	2500	0316	3496	2786	0004364					15048												
183		OBS	T2855	0284	34939	2787						15095												
		STD	3000	0271	3493	2788	0004224					15115												
183		OBS	3843	0226	34897	2789						15242												
183		OBS	T3942	0224	34893	2789						15259												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NDDC STATION NUMBER	
CITY CODE	ID. NO.					10"	1"	MO	DAY	HR	1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
						WATER COLOR CODE	TRANS. (m)	DIR.	WIND SPEED OR FORCE	BARO- METER (mb)	AIR TEMP. °C DRY BULB WET BULB		VIS CODE	NO. OBS. DEPTHS			SPECIAL OBSERVATIONS							
311203	HU		3500 N	04803 W		113	58	01	16	129	1968	E08	008		3840	17	16	2	3		X1	4	6	0008
									19	525	295	172	148	7	14									
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ D DYN. M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₃ -N μg - at/l	NO ₂ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C					
		STD	0000	1801	3628	2627	0017603		0000			15181												
129		OBS	0000	1801	36283	2627						15181												
		STD	0010	1803	3629	2627	0017671		0018			15183												
		STD	0020	1804	3629	2626	0017722		0035			15185												
129		OBS	0026	1805	36287	2626						15186												
		STD	0030	1805	3629	2626	0017773		0053			15187												
		STD	0050	1807	3630	2626	0017822		0089			15191												
129		OBS	0051	1807	36296	2626						15191												
		STD	0075	1810	3633	2628	0017731		0133			15196												
129		OBS	0077	1810	36331	2628						15196												
		STD	0100	1810	3634	2629	0017787		0178			15200												
129		OBS	0103	1810	36335	2629						15201												
		STD	0125	1752	3633	2643	0016543		0220			15187												
		STD	0150	1698	3631	2654	0015523		0261			15175												
129		OBS	0154	1691	36307	2656						15174												
		STD	0200	1631	3622	2663	0014822		0336			15162												
129		OBS	T0203	1627	36210	2663						15161												
		STD	0250	1563	3610	2670	0014346		0409			15148												
		STD	0300	1492	3598	2676	0013837		0480			15133												
		STD	0400	1343	3575	2690	0012707		0612			15098												
129		OBS	T0410	1328	35724	2691						15094												
		STD	0500	1185	3551	2703	0011632		0734			15058												
129		OBS	0518	1156	35476	2706						15050												
		STD	0600	1023	3533	2719	0010227		0843			15015												
129		OBS	T0626	0980	35285	2723						15003												
		STD	0700	0822	3517	2739	0008241		0936			14955												
		STD	0800	0658	3507	2755	0006660		1010			14907												
129		OBS	0847	0600	35032	2760						14891												
		STD	0900	0574	3503	2763	0005896		1073			14889												
		STD	1000	0529	3503	2769	0005416		1130			14888												
129		OBS	T1076	0499	35030	2772						14888												
		STD	1100	0490	3502	2772	0005090		1182			14888												
		STD	1200	0459	3500	2774	0004934		1232			14892												
		STD	1300	0432	3499	2777	0004754		1281			14897												
129		OBS	1386	0414	34977	2777						14904												
		STD	1400	0411	3498	2778	0004669		1328			14905												
		STD	1500	0396	3497	2779	0004585		1374			14916												
129		OBS	T1707	0383	34968	2780						14945												

REFERENCE	SHIP	LATITUDE	LONGITUDE	TIME	MARSDEN		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	MO	DAY	HR.		CRUISE NO.	STATION NUMBER			DIR.	HGT.	PER.		SEA	TYPE	
311203	HU	3448 N	04816 W		113	48	01	17	129	1968	E08	009	4837	20	21	2	5	X8	5	8	0009

311203	HU	3448 N	04816 W	113	48	01	17	129	1968	E08	009	4837	20	21	2	5	X8	5 8	0009

MESSAGE	CAST	CARD	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME	S.D.	SOUND	O ₂ ml/l	PO ₄ -P	TOTAL-P	NO ₂ -N	NO ₃ -N	SiO ₄ -Si	pH	S
TIME	NO.	TYPE					ANOMALY-10°	DYN. M.	VELOCITY		µg - dl/l	µg - dl/l	µg - dl/l	µg - dl/l	µg - dl/l		C
HR 1/10								X 10 ³									
		STO	0000	1795	3634	2633	0017040	0000	15180								
129	OBS	0000	1795	36341	2633				15180								
	STO	0010	1796	3634	2633	0017089	0017		15181								
	STO	0020	1796	3634	2633	0017133	0034		15183								
	STO	0030	1797	3634	2632	0017182	0051		15185								
129	OBS	0032	1797	36342	2632				15185								
	STO	0050	1798	3634	2632	0017271	0086		15189								
129	OBS	0064	1799	36344	2632				15191								
	STO	0075	1799	3635	2632	0017359	0129		15193								
129	OBS	0097	1798	36346	2632				15196								
	STO	0100	1798	3635	2633	0017408	0173		15197								
	STO	0125	1790	3637	2636	0017182	0216		15199								
129	OBS	0130	1787	36368	2637				15199								
	STO	0150	1764	3637	2642	0016648	0258		15195								
129	OBS	0194	1714	36360	2654				15188								
	STO	0200	1708	3635	2655	0015630	0339		15187								
	STO	0250	1651	3625	2661	0015217	0416		15177								
129	OBS	T0260	1639	36228	2662				15175								
	STO	0300	1592	3612	2664	0014998	0491		15165								
	STO	0400	1453	3587	2676	0014106	0637		15135								
	STO	0500	1284	3563	2693	0012672	0771		15093								
129	OBS	0518	1250	35591	2697				15084								
	STO	0600	1071	3540	2716	0010569	0887		15033								
129	OBS	0648	0978	35303	2725				15006								
	STO	0700	0887	3523	2734	0008851	0984		14980								
129	OBS	T0775	0771	35138	2745				14947								
	STO	0800	0738	3512	2748	0007477	1066		14939								
	STO	0900	0623	3507	2760	0006303	1135		14909								
	STO	1000	0535	3503	2768	0005504	1194		14890								
129	OBS	1037	0510	35021	2770				14886								
	STO	1100	0489	3501	2772	0005150	1247		14888								
	STO	1200	0460	3500	2774	0004948	1297		14892								
129	OBS	T1288	0439	34990	2776				14898								
	STO	1300	0437	3499	2776	0004820	1346		14899								
	STO	1400	0422	3498	2777	0004792	1394		14910								
	STO	1500	0408	3497	2778	0004773	1442		14921								
129	OBS	1623	0395	34962	2778				14936								
	STO	1750	0385	3496	2779	0004729	1561		14953								
129	OBS	T1958	0375	34968	2781				14984								

REFERENCE		SHIP	LATITUDE	LONGITUDE	UNIT	MASSEN	SQUARE	STATION	TIME	YEAR	RELIGION	STATION	DEPTH	WAVE	AIR
CITY	ID.	CODE	"	"	INDIC	"	"	"	"	"	"	"	"	"	"
NAME	NO.		"	"		"	"	"	"	"	"	"	"	"	"
311203	HU	3455 N	04801 W	113	48	01	18	130	1968	FOR	010	4444	14	31	34
						WATER	WIND	SARO-	AIR TEMP °C		VIS	NH	SPECIAL		
						SQUARE	GIB	METER	BULB		COOK	OBK	OBSERVATIONS		
						CODE	TRANS	SP	WET		DEPTHS				
							FORCE	(mbs)	RUB						
						43	S18	271	175		140	7	14		
MESSAGE TIME OF HR / 10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °C	SIGNAL	SPECIFIC VOLUME ANOMALY (σ _t)	S.D. CYN M X 10 ³	SOUND SPEED - SLOCITE	DISTANCE - DISTANCE	POLE	TEMPERATURE	WAVELENGTH	WAVE PERIOD	WAVE DIRECTION
		STO	0000	1795	3634	2633	0017055	0000	15180						
	130	OBS	0000	1795	3633	2633			15180						
		STD	0010	1796	3634	2632	0017116	0017	15181						
		STD	0020	1797	3634	2632	0017179	0034	15183						
	130	OBS	0024	1797	36336	2632			15184						
		STD	0030	1799	3634	2631	0017275	0051	15186						
	130	OBS	0047	1801	36337	2631			15189						
		STD	0050	1800	3634	2632	0017340	0086	15189						
	130	OBS	0070	1797	36341	2632			15192						
		STD	0075	1796	3634	2633	0017317	0129	15192						
	130	OBS	0093	1795	36345	2632			15195						
		STD	0100	1795	3635	2632	0017356	0173	15196						
		STD	0125	1794	3635	2633	0017421	0216	15200						
	130	OBS	0139	1794	36347	2634			15202						
		STD	0150	1773	3634	2638	0017026	0254	15196						
	130	OBS	T0187	1705	36329	2654			15184						
		STD	0200	1677	3628	2657	0015427	0340	15177						
		STD	0250	1578	3613	2668	0014458	0415	15153						
		STD	0300	1497	3599	2676	0013871	0486	15134						
	130	OBS	T0360	1422	35855	2682			15112						
		STD	0400	1415	3581	2690	0013745	0624	15122						
	130	OBS	0451	1355	35707	2685			15110						
		STD	0500	1217	3555	2700	0011950	0752	15069						
	130	OBS	T0538	1124	35446	2710			15042						
		STD	0600	1034	3540	2722	0009909	0862	15020						
		STD	0700	0882	3529	2739	0008429	0953	14979						
	130	OBS	0724	0844	35265	2743			14968						
		STD	0800	0695	3512	2754	0006832	1029	14922						
	130	OBS	T0893	0565	35013	2763			14884						
		STD	0900	0562	3501	2763	0005871	1092	14884						
		STD	1000	0519	3501	2769	0005406	1149	14883						
		STD	1100	0483	3502	2773	0005034	1201	14885						
	130	OBS	1107	0481	35015	2773			14886						
		STD	1200	0454	3501	2776	0004795	1250	14890						
		STD	1300	0433	3500	2777	0004694	1297	14898						
		STD	1400	0418	3499	2778	0004666	1344	14908						
	130	OBS	T1429	0415	34984	2778			14912						

REFERENCE		SHIP CODE	LATITUDE 1-10	LONGITUDE 1-10	WASDEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY NO.	ID. NO.					10°	1°	MO	DAY	HR 1-10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
311203		HU	3502 N	048045W	113	58	01	20	012	1968	E08	011	2341	14	01	2	2		X1	8	2	0011
						WATER		WIND			AIR TEMP. °C				SPECIAL OBSERVATIONS							
						COLOR CODE	TRANSL (MI)	SPEED OR FORCE	BARO- METER (mbs)		DRY BULB	WET BULB	VIS CODE	NO. OBS. DEPTHS								
								36	504	315	157	133	9	14								

MESSNGR TIME HR 1-10	CAST NO.	CARD TYPE	DEPTH (M)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	Δ ρ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₃ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -Si μg - ml/l	pH	S C C
		STD	0000	1800	3643	2638	0016534	0000	15182								
		OBS	0000	1800	36427	2638			15182								
012		STD	0010	1802	3644	2639	0016514	0017	15184								
		STD	0020	1804	3644	2638	0016592	0033	15186								
012		OBS	0023	1804	36442	2638			15187								
		STD	0030	1804	3644	2638	0016624	0050	15188								
012		OBS	0047	1804	36441	2638			15191								
		STD	0050	1804	3644	2638	0016704	0083	15192								
012		OBS	0070	1805	36441	2638			15195								
		STD	0075	1805	3644	2638	0016812	0125	15196								
012		OBS	0093	1805	36441	2638			15199								
		STD	0100	1804	3644	2638	0016883	0167	15200								
		STD	0125	1803	3644	2638	0016946	0209	15204								
012		OBS	0140	1802	36438	2639			15206								
		STD	0150	1802	3644	2639	0017009	0252	15207								
012		OBS	0187	1802	36445	2639			15213								
		STD	0200	1797	3643	2639	0017150	0327	15214								
		STD	0250	1765	3636	2642	0017055	0423	15212								
		STD	0300	1717	3629	2648	0016584	0507	15205								
012		OBS	T0380	1604	36185	2667			15182								
		STD	0400	1561	3611	2671	0014697	0663	15172								
012		OBS	0465	1436	35892	2682			15141								
		STD	0500	1389	3582	2686	0013417	0804	15130								
012		OBS	T0563	1288	35680	2696			15105								
		STD	0600	1190	3554	2705	0011757	0930	15076								
		STD	0700	0964	3526	2724	0009927	1038	15009								
012		OBS	0744	0883	35184	2731			14985								
		STD	0800	0808	3518	2743	0008104	1128	14966								
		STD	0900	0690	3518	2760	0006466	1201	14937								
012		OBS	0923	0665	35181	2763			14931								
		STD	1000	0586	3511	2768	0005622	1261	14912								
		STD	1100	0508	3504	2772	0005185	1316	14896								
012		OBS	1146	0481	35019	2773			14892								
		STD	1200	0457	3501	2776	0004805	1365	14891								
		STD	1300	0432	3501	2778	0004636	1413	14897								
012		OBS	T1378	0432	34999	2777			14910								

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
					MO	DAY	HR. 1/10		CRUISE NO	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT		
311203	HU	3503 N	04809 W	113	58	01	20 130	1968	E08	012	3163	14	33	2	3		X1	7	5	0012
		WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		V/L CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB												
				06	S10	305	182	142	9	14										
MESSAGE TIME HB 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{ml}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{ml}^{-1}$	SiO ₄ -Si $\mu\text{g} \cdot \text{ml}^{-1}$	pH	S C C		
		STO	0000	1787	3639	2639	0016474		0000	15178										
130		OBS	0000	1787	36393	2639				15178										
		STO	0010	1786	3639	2639	0016527		0017	15179										
		STO	0020	1785	3638	2638	0016579		0033	15181										
130		OBS	0025	1785	36381	2638				15181										
		STO	0030	1785	3638	2638	0016623		0050	15182										
130		OBS	0049	1786	36381	2638				15185										
		STO	0050	1786	3638	2638	0016712		0083	15186										
		STO	0075	1786	3638	2638	0016791		0125	15190										
130		OBS	0075	1786	36382	2638				15190										
		STO	0100	1784	3637	2638	0016903		0167	15193										
130		OBS	0100	1784	36372	2638				15193										
		STO	0125	1784	3637	2638	0017004		0209	15197										
130		OBS	0149	1784	36368	2638				15201										
		STO	0150	1784	3637	2638	0017092		0252	15201										
		STO	0200	1789	3649	2646	0016496		0336	15212										
130		OBS	T0200	1789	36492	2646				15212										
		STO	0250	1770	3646	2648	0016450		0418	15215										
		STO	0300	1730	3639	2653	0016185		0500	15210										
130		OBS	T0381	1622	36199	2664				15189										
		STO	0400	1585	3613	2667	0015084		0656	15180										
130		OBS	0470	1440	35876	2680				15143										
		STO	0500	1372	3576	2685	0013502		0799	15124										
130		OBS	T0557	1243	35568	2696				15088										
		STO	0600	1126	3542	2707	0011428		0924	15053										
		STO	0700	0901	3517	2727	0009521		1029	14985										
130		OBS	0737	0835	35123	2734				14965										
		STO	0800	0760	3515	2747	0007594		1114	14947										
130		OBS	T0897	0657	35157	2762				14923										
		STO	0900	0654	3515	2762	0006163		1183	14923										
		STO	1000	0560	3508	2769	0005479		1241	14901										
		STO	1100	0491	3502	2772	0005103		1294	14889										
130		OBS	1127	0477	35011	2773				14887										
		STO	1200	0462	3500	2774	0004955		1344	14893										
		STO	1300	0442	3499	2776	0004876		1394	14901										
130		OBS	T1363	0429	34984	2776				14906										

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER	
					10*	1*	MO	DAY	HR 1/10	CRUISE NO.	DIR			HGT	PER	SEA	TYPE	AMT				
311203	HU	3506 N	04816 W	113 58	01	21	128	1968	E08	013	4155	13	11	2	3			X1	6	6		0013
		WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB														
					10	S15	430	193	188	7	14											
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 01/1	TOTAL-P μg - 01/1	NO ₂ -N μg - 01/1	NO ₃ -N μg - 01/1	SiO ₄ -Si μg - 01/1	pH	3 C					
		STD	0000	1781	3639	2640	0016370	0000	15176													
128		OBS	0000	1781	36388	2640			15176													
		STD	0010	1785	3639	2639	0016484	0016	15179													
		STD	0020	1787	3639	2639	0016566	0033	15181													
128		OBS	0027	1788	36391	2639			15183													
		STD	0030	1788	3639	2638	0016617	0050	15183													
		STD	0050	1787	3639	2639	0016663	0083	15186													
128		OBS	0050	1787	36391	2639			15186													
128		OBS	0073	1786	36391	2639			15189													
		STD	0075	1786	3639	2639	0016733	0125	15190													
128		OBS	0096	1786	36389	2639			15193													
		STD	0100	1786	3639	2639	0016827	0167	15194													
		STD	0125	1786	3639	2639	0016906	0209	15198													
128		OBS	0142	1786	36390	2639			15201													
		STD	0150	1788	3641	2640	0016894	0251	15203													
128		OBS	0188	1791	36485	2645			15211													
		STD	0200	1783	3647	2646	0016489	0334	15210													
		STD	0250	1749	3642	2650	0016244	0416	15208													
		STD	0300	1716	3637	2654	0015997	0497	15206													
128		OBS	T0362	1674	36306	2660			15203													
		STD	0400	1602	3618	2667	0015101	0652	15186													
128		OBS	0453	1490	35982	2677			15157													
		STD	0500	1373	3578	2686	0013378	0795	15125													
128		OBS	0537	1283	35636	2694			15099													
		STD	0600	1114	3543	2710	0011133	0917	15049													
		STD	0700	0900	3520	2729	0009285	1019	14985													
128		OBS	0707	0887	35188	2731			14981													
		STD	0800	0764	3515	2747	0007656	1104	14949													
128		OBS	T0875	0679	35119	2756			14928													
		STD	0900	0654	3510	2758	0006530	1175	14922													
		STD	1000	0569	3505	2765	0005825	1237	14904													
		STD	1100	0505	3502	2771	0005291	1292	14894													
128		OBS	1109	0500	35016	2771			14894													
		STD	1200	0461	3500	2774	0004961	1344	14893													
		STD	1300	0439	3499	2776	0004846	1393	14900													
128		OBS	T1350	0435	34990	2776			14907													

REFERENCE		SHIP CODE	LATITUDE ° ' "/10	LONGITUDE ° ' "/10	DATE MO DAY HR	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTD CODE	ID. NO.						MO	DAY	HR		CRUISE NO.	STATION NUMBER			DIR	NGT	PER	SEA	TYPE	AMT		
311203		HU	3513 N	04759 W	113 57 01	22 220	1968				E08	014	3200	20	11	2	2		X1	1	6	0014
		WATER		WIND		BARO- METER		AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
COLOR CODE	TRANS (m)	DIR	SPEED OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB																
			22	519	064	186	182	7	14													
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S Δ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	3 LOC					
		STD	0000	1771	3636	2640	0016325	0000	15173													
220		OBS	0000	1771	36362	2640			15173													
		STD	0010	1771	3636	2640	0016381	0016	15175													
		STD	0020	1772	3636	2640	0016422	0033	15176													
		STD	0030	1772	3636	2640	0016464	0049	15178													
220		OBS	0033	1772	36356	2640			15178													
		STD	0050	1773	3636	2639	0016583	0082	15182													
220		OBS	0065	1774	36358	2639			15184													
		STD	0075	1773	3636	2640	0016645	0124	15186													
220		OBS	0098	1772	36364	2640			15189													
		STD	0100	1772	3636	2640	0016678	0165	15190													
		STD	0125	1772	3637	2641	0016743	0207	15194													
220		OBS	0131	1772	36368	2641			15195													
		STD	0150	1771	3640	2643	0016566	0249	15198													
220		OBS	0196	1759	36439	2649			15202													
		STD	0200	1757	3644	2649	0016154	0331	15202													
		STD	0250	1727	3639	2653	0015955	0411	15201													
220		OBS	0260	1719	36380	2654			15200													
		STD	0300	1674	3629	2658	0015614	0490	15192													
		STD	0400	1533	3604	2672	0014590	0641	15163													
		STD	0500	1354	3577	2690	0013061	0779	15118													
220		OBS	T0519	1316	35712	2693			15108													
		STD	0600	1128	3544	2709	0011319	0901	15054													
220		OBS	0650	1014	35304	2718			15020													
		STD	0700	0887	3519	2731	0009144	1003	14980													
220		OBS	T0779	0731	35060	2744			14932													
		STD	0800	0721	3507	2746	0007602	1087	14931													
		STD	0900	0674	3511	2756	0006779	1159	14930													
		STD	1000	0623	3514	2766	0005901	1222	14927													
220		OBS	1041	0602	35159	2770			14926													
		STD	1100	0560	3512	2772	0005313	1278	14918													
		STD	1200	0501	3506	2774	0005058	1330	14910													
		STD	1300	0455	3501	2776	0004883	1380	14907													
220		OBS	1300	0455	35014	2776			14907													
		STD	1400	0436	3500	2777	0004832	1429	14916													
		STD	1500	0420	3499	2778	0004787	1477	14926													
220		OBS	1626	0403	34976	2779			14940													
		STD	1750	0390	3497	2779	0004754	1596	14955													
220		OBS	T1952	0376	34968	2781			14984													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	ORIGINATOR'S INDIC.	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOCC STATION NUMBER
CRUISE CODE	IO. NO.					10"	1"	MO	DAY	HR.		1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA	
311203	HU	3505 N	04818 W	113 58 01 23 127 1968	E08 015	4590	16	30	3 5	X1	5 6	0015										

WATER	WIND	BARO-METER (mba)	AIR TEMP. °C	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. INT.	DIR. SPEED OR FORCE	DRY BULB	WET BULB		
31	S14	163	183	183	7	14

MESSAGE TIME OF HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ ρ OYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₂ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₃ -N μg - ml/l	NO ₂ -N μg - ml/l	SiO ₄ -Si μg - ml/l	pH	1
		STD	0000	1799	3642	2638	0016583	0000	15182								
127		OBS	0000	1799	36417	2638			15182								
		STD	0010	1799	3642	2637	0016639	0017	15183								
		STD	0020	1800	3641	2637	0016691	0033	15185								
		STD	0030	1800	3641	2637	0016747	0050	15187								
127		OBS	0030	1800	36412	2637			15187								
		STD	0050	1791	3640	2638	0016706	0083	15187								
127		OBS	0061	1788	36390	2638			15188								
		STD	0075	1789	3640	2639	0016719	0125	15191								
127		OBS	0090	1789	36401	2639			15193								
		STD	0100	1789	3640	2639	0016818	0167	15195								
127		OBS	0122	1788	36399	2639			15198								
		STD	0125	1788	3640	2639	0016878	0209	15199								
		STD	0150	1787	3640	2639	0016946	0252	15203								
127		OBS	0184	1786	36407	2640			15208								
		STD	0200	1779	3642	2643	0016781	0336	15209								
127		OBS	T0246	1754	36441	2651			15209								
		STD	0250	1752	3643	2650	0016243	0418	15209								
		STD	0300	1716	3635	2653	0016148	0499	15206								
		STD	0400	1604	3613	2662	0015508	0658	15186								
		STD	0500	1439	3587	2679	0014101	0806	15147								
127		OBS	0563	1308	35682	2692			15112								
		STD	0600	1206	3553	2701	0012136	0937	15082								
127		OBS	T0671	1034	35312	2716			15030								
		STD	0700	0980	3529	2723	0009984	1048	15015								
		STD	0800	0816	3521	2743	0008033	1138	14970								
127		OBS	0885	0702	35154	2756			14939								
		STD	0900	0685	3514	2757	0006693	1211	14935								
		STD	1000	0589	3507	2764	0005958	1274	14912								
127		OBS	1097	0520	35018	2769			14900								
		STD	1100	0519	3502	2769	0005495	1332	14900								
		STD	1200	0491	3501	2772	0005259	1386	14905								
		STD	1300	0465	3501	2774	0005046	1437	14911								
127		OBS	1364	0450	35007	2776			14916								
		STD	1400	0442	3500	2776	0004912	1487	14918								
		STD	1500	0421	3499	2778	0004801	1535	14926								
127		OBS	T1631	0398	34968	2778			14938								

REFERENCE CTRY CODE	SHIP NO.	SHIP CODE	LATITUDE ° ' 10"	LONGITUDE ° ' 10"	ORIG INDIC	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
						10"	1"	MO	DAY	HR. 1/10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
311203	HU		3454 N	04809 W		113	48	01	24	125	1968	E08,016	4462	15	35	3	4		X2	6	18	0016
		WATER		WIND		BARO- METER (mbal)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB														
						35	S14	247	172	167	7	14										
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME AND MALT-3107		S Δ D DYN. M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH				
		STD	0000	1786	3642	2641	0016277		0000		15178											
125		OBS	0000	1786	36417	2641					15178											
		STD	0010	1787	3642	2640	0016349		0016		15180											
		STD	0020	1789	3642	2640	0016419		0033		15182											
125		OBS	0024	1789	36414	2640					15183											
		STD	0030	1789	3642	2640	0016466		0049		15184											
125		OBS	0048	1789	36418	2640					15187											
		STD	0050	1789	3642	2640	0016516		0082		15187											
125		OBS	0071	1790	36415	2640					15191											
		STD	0075	1790	3642	2640	0016646		0124		15191											
125		OBS	0095	1790	36414	2640					15195											
		STD	0100	1790	3641	2639	0016766		0165		15195											
		STD	0125	1789	3641	2640	0016841		0207		15199											
125		OBS	0142	1789	36407	2639					15202											
		STD	0150	1789	3641	2639	0016940		0250		15203											
125		OBS	0192	1787	36403	2640					15209											
		STD	0200	1787	3640	2639	0017137		0335		15211											
		STD	0250	1777	3636	2639	0017339		0421		15216											
		STD	0300	1746	3632	2643	0017052		0507		15214											
125		OBS	T0383	1646	36260	2663					15197											
		STD	0400	1612	3619	2665	0015253		0668		15189											
125		OBS	0478	1460	35909	2678					15151											
		STD	0500	1420	3585	2682	0013846		0814		15141											
125		OBS	T0574	1281	35653	2695					15105											
		STD	0600	1213	3556	2702	0012053		0943		15085											
		STD	0700	0988	3528	2721	0010196		1055		15018											
125		OBS	0779	0850	35148	2733					14978											
		STD	0800	0828	3515	2737	0008650		1149		14973											
		STD	0900	0730	3517	2753	0007160		1228		14953											
125		OBS	0984	0657	35184	2764					14938											
		STD	1000	0643	3517	2765	0006002		1294		14935											
		STD	1100	0566	3510	2770	0005544		1352		14920											
		STD	1200	0505	3505	2773	0005186		1405		14911											
125		OBS	1247	0482	35026	2774					14909											
		STD	1300	0461	3502	2776	0004926		1456		14910											
		STD	1400	0433	3501	2778	0004741		1504		14915											
		STD	1500	0421	3499	2778	0004771		1552		14926											
125		OBS	T1513	0421	34992	2778					14928											

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CRUISE NO.	ID. NO.					10"	1"	MO		DAY	HR. 1/10			CRUISE NO.	STATION NUMBER	DIR		HGT	PER	
311203	HU	3503 N	04811 W	113 58	01	25	128	1968	E08	017	4023	13	32	3	3		X1	8	6	0017

311203	HU	3503 N	04811 W	113 58	01 25	128	1968	E08	017		4023	13	32	3	3		X1	8	6		0017
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WATER		WIND		AIR TEMP. °C		SPECIAL OBSERVATIONS	
COLOR CODE	TRANS (m)	DIR	SPEED OR FORCE	BARO- METER (mba)	DRY BULB	WET BULB	VIS CODE
		35	517	196	149	108	7
							14

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-260°	$\Sigma \Delta D$ OWN, M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	Si O ₄ -Si $\mu g - dl/l$	pH	1 C C
		STD	0000	1785	3642	2641	0016260	0000	15178								
128		OBS	0000	1785	36416	2641			15178								
		STD	0010	1786	3642	2641	0016287	0016	15180								
		STD	0020	1787	3642	2641	0016343	0033	15181								
128		OBS	0022	1787	36423	2641			15182								
		STD	0030	1787	3642	2641	0016361	0049	15183								
128		OBS	0045	1786	36422	2641			15185								
		STD	0050	1786	3642	2641	0016409	0082	15186								
128		OBS	0069	1785	36422	2642			15189								
		STD	0075	1786	3642	2641	0016493	0123	15190								
128		OBS	0090	1788	36427	2641			15193								
		STD	0100	1788	3643	2641	0016605	0164	15195								
		STD	0125	1788	3643	2641	0016699	0206	15199								
128		OBS	0133	1788	36424	2641			15200								
		STD	0150	1789	3642	2641	0016819	0248	15203								
128		OBS	T0176	1790	36422	2640			15208								
		STD	0200	1789	3642	2640	0017025	0332	15212								
		STD	0250	1775	3641	2643	0016915	0417	15216								
		STD	0300	1745	3641	2650	0016421	0501	15215								
128		OBS	T0328	1720	36402	2656			15212								
		STD	0400	1635	3623	2663	0015483	0660	15196								
128		OBS	0410	1618	36202	2665			15192								
128		OBS	T0486	1453	35914	2680			15150								
		STD	0500	1417	3585	2682	0013783	0806	15140								
		STD	0600	1172	3548	2703	0011852	0935	15069								
128		OBS	0636	1089	35382	2711			15045								
		STD	0700	0929	3524	2728	0009477	1041	14996								
128		OBS	T0790	0760	35119	2745			14945								
		STD	0800	0753	3512	2746	0007706	1127	14944								
		STD	0900	0688	3515	2757	0006664	1199	14936								
		STD	1000	0625	3515	2766	0005886	1262	14928								
128		OBS	1012	0617	35153	2767			14927								
		STD	1100	0562	3513	2772	0005268	1318	14919								
		STD	1200	0502	3507	2775	0004998	1369	14910								
128		OBS	T1262	0465	35017	2775			14905								

REFERENCE CITY CODE	ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
						10"	1"	MO	DAY	HR. 1/10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	
311203		HU	3507 N	04802 W	113 58 01 26 119	113	58	01	26	119	1968	E08 018	4462	14	33	2	2		X1	6 16	0018
						WATER		WIND		BARO- METER		AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS. 1m	DIR.	SPEED OF FORCE	mmHg	DRY BULB	WET BULB									
								01	512	210	191	184	7	14							
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-t	SPECIFIC VOLUME ANOMALY - 10 ³	S Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SIO ₄ -Si μg - at/l	pH	S C C				
		STD	0000	1783	3641	2641	0016228	0000	15177												
119		OBS	0000	1783	36414	2641			15177												
		STD	0010	1784	3642	2641	0016267	0016	15179												
		STD	0020	1785	3642	2641	0016308	0033	15181												
119		OBS	0024	1785	36419	2641			15182												
		STD	0030	1785	3642	2641	0016350	0049	15183												
119		OBS	0045	1786	36420	2641			15185												
		STD	0050	1786	3642	2641	0016429	0082	15186												
119		OBS	0069	1786	36422	2641			15189												
		STD	0075	1786	3642	2641	0016515	0123	15190												
119		OBS	0091	1786	36419	2641			15193												
		STD	0100	1786	3642	2641	0016614	0164	15194												
		STD	0125	1787	3642	2641	0016719	0206	15199												
119		OBS	0137	1787	36418	2641			15201												
		STD	0150	1787	3642	2641	0016820	0248	15203												
119		OBS	T0186	1788	36418	2640			15209												
		STD	0200	1783	3642	2642	0016900	0332	15210												
		STD	0250	1764	3641	2646	0016679	0416	15212												
		STD	0300	1745	3640	2650	0016457	0499	15215												
119		OBS	T0365	1721	36392	2655			15218												
		STD	0400	1667	3628	2659	0015852	0660	15207												
119		OBS	0454	1567	36096	2668			15183												
		STD	0500	1457	3591	2678	0014193	0811	15153												
119		OBS	T0552	1332	35712	2690			15119												
		STD	0600	1195	3552	2702	0011998	0942	15078												
		STD	0700	0962	3524	2722	0010039	1052	15008												
119		OBS	0733	0900	35181	2728			14990												
		STD	0800	0819	3518	2741	0008308	1144	14970												
		STD	0900	0711	3518	2756	0006826	1219	14945												
119		OBS	T0918	0693	35174	2759			14941												
		STD	1000	0613	3511	2764	0006006	1283	14922												
		STD	1100	0534	3505	2770	0005465	1341	14907												
119		OBS	1174	0490	35019	2772			14900												
		STD	1200	0477	3501	2773	0005100	1394	14899												
		STD	1300	0442	3499	2775	0004886	1443	14901												
		STD	1400	0427	3499	2777	0004785	1492	14912												
119		OBS	T1427	0427	34990	2777			14916												

REFERENCE CIRCUIT NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	MO		DAY	HR. 1/10			CRUISE NO.	STATION NUMBER	DIR		HGT	PER	
311203	HU	3502 N	04808 W	113 58	01	27	125	1968	E08	019	3181	15	06	2	3	X1	8	3	0019

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS IMI	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		10	510	224	196	186	8	14	

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma_t$ ML $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₂ -Si $\mu g - dl/l$	pH	S C
		STD	0000	1785	3641	2641	0016289	0000	15178								
125		OBS	0000	1785	36412	2641			15178								
		STD	0010	1785	3641	2641	0016333	0016	15179								
		STD	0020	1786	3641	2640	0016385	0033	15181								
125		OBS	0024	1786	36411	2640			15182								
		STD	0030	1786	3641	2640	0016422	0049	15183								
		STD	0050	1787	3642	2640	0016488	0082	15186								
125		OBS	0050	1787	36415	2640			15186								
125		OBS	0074	1787	36414	2640			15190								
		STD	0075	1787	3641	2640	0016582	0123	15190								
125		OBS	0099	1788	36419	2641			15195								
		STD	0100	1788	3642	2641	0016656	0165	15195								
		STD	0125	1788	3642	2641	0016735	0207	15199								
125		OBS	0148	1788	36420	2641			15203								
		STD	0150	1788	3642	2641	0016824	0249	15203								
125		OBS	0198	1790	36414	2640			15211								
		STD	0200	1790	3641	2640	0017099	0333	15212								
		STD	0250	1779	3636	2638	0017386	0420	15216								
		STD	0300	1747	3631	2642	0017169	0506	15214								
125		OBS	T0398	1626	36207	2663			15193								
		STD	0400	1622	3620	2664	0015406	0669	15192								
125		OBS	0495	1428	35854	2680			15143								
		STD	0500	1419	3584	2681	0013897	0815	15140								
125		OBS	T0592	1230	35569	2699			15089								
		STD	0600	1202	3554	2702	0011987	0945	15081								
		STD	0700	0902	3527	2735	0008806	1049	14986								
125		OBS	0793	0712	35113	2751			14927								
		STD	0800	0707	3511	2752	0007062	1128	14926								
		STD	0900	0644	3511	2760	0006318	1195	14918								
125		OBS	T0991	0590	35106	2767			14912								
		STD	1000	0584	3510	2767	0005667	1255	14911								
		STD	1100	0526	3506	2771	0005282	1310	14903								
		STD	1200	0480	3503	2774	0004994	1361	14901								
125		OBS	1240	0465	35016	2775			14901								
		STD	1300	0446	3500	2776	0004865	1410	14903								
		STD	1400	0425	3499	2777	0004759	1458	14911								
		STD	1500	0416	3498	2778	0004778	1506	14924								
125		OBS	T1500	0416	34984	2778			14924								

REFERENCE		SHIP CODE	LATITUDE ° '"/10	LONGITUDE ° '"/10	ORBIT INCH	MARS DEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE DEPTH OF SAMPLES	WAVE OBSERVATIONS		WAVE THER CODE	CLOUD CODES	NODC STATION NUMBER			
CTRY CODE	IO. NO.					10'	1"	MO	DAY	HR	10		CRUISE NO.	STATION NUMBER			CL	HQ	PER	SEA				
311203	HU		3505 N	04800 W	113	58	01	28	142	1968		E08	020		4078	15	09	3	2		X1	7	6	0020
WATER		WIND		BARO- METER	AIR TEMP °C		VIS CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS															
COLOR CODE	TRANS (m)	DIR	SPEED OF FORCE		DRY BULB	WET BULB																		
				11	509	163	192	190	7	14														
MESSAGE TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S.D. DYN. M E S	SOUND VELOCITY	CS (m/s)	PO ₂ -P 12-01/1	TOTAL-P 12-01/1	NO ₂ -N 12-01/1	NO ₃ -N 12-01/1	SIO ₄ -S 12-01/1	PH	S IC							
		STD	0000	1766	3635	2641	0016288	0000	15171															
142		OBS	0000	1766	36351	2641			15171															
		STD	0010	1767	3635	2640	0016350	0016	15173															
		STD	0020	1768	3635	2640	0016420	0033	15175															
142		OBS	0025	1769	36350	2640			15176															
		STD	0030	1769	3635	2640	0016469	0049	15177															
		STD	0050	1769	3635	2640	0016538	0082	15180															
142		OBS	0051	1769	36350	2640			15180															
		STD	0075	1770	3635	2640	0016647	0124	15185															
142		OBS	0076	1770	36350	2640			15185															
		STD	0100	1770	3635	2640	0016726	0165	15189															
142		OBS	0101	1770	36351	2640			15189															
		STD	0125	1775	3637	2640	0016784	0207	15194															
		STD	0150	1780	3639	2640	0016841	0249	15200															
142		OBS	0152	1780	36396	2641			15201															
		STD	0200	1791	3643	2641	0016971	0334	15212															
142		OBS	T0203	1792	36426	2641			15213															
		STD	0250	1759	3639	2645	0016697	0418	15211															
		STD	0300	1708	3632	2652	0016180	0500	15203															
		STD	0400	1557	3609	2670	0014754	0655	15171															
142		OBS	T0405	1548	36071	2671			15168															
		STD	0500	1338	3573	2690	0013026	0794	15112															
142		OBS	0507	1323	35708	2691			15108															
		STD	0600	1120	3543	2709	0011244	0915	15051															
142		OBS	T0609	1102	35408	2711			15046															
		STD	0700	0911	3528	2734	0008883	1016	14990															
		STD	0800	0754	3519	2751	0007208	1096	14946															
142		OBS	0812	0739	35186	2753			14942															
		STD	0900	0682	3518	2761	0006333	1164	14934															
		STD	1000	0619	3518	2769	0005579	1223	14926															
142		OBS	T1022	0605	35179	2771			14924															
		STD	1100	0546	3512	2774	0005118	1277	14912															
		STD	1200	0485	3505	2775	0004914	1327	14903															
142		OBS	1269	0453	35019	2777			14901															
		STD	1300	0441	3502	2778	0004689	1375	14901															
		STD	1400	0413	3500	2779	0004527	1421	14906															
		STD	1500	0402	3499	2779	0004577	1467	14918															
142		OBS	T1521	0402	34983	2779			14922															

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR/10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311203	HU	3503 N	04809 W	113	58	01	29	137	1968	E08	021	2761	18	11	3	4		X2	7	6	0021
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WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. UNIT	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB			

		11	S16	152	169	150	7	14		
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MISSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₂ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SiO ₄ -Si $\mu g \cdot dl/l$	PH	S CODE
		STD	0000	1768	3636	2641	0016240	0000	15172								
137		OBS	0000	1768	36364	2641			15172								
		STD	0010	1769	3636	2641	0016327	0016	15174								
		STD	0020	1770	3636	2640	0016385	0033	15176								
137		OBS	0027	1771	36359	2640			15177								
		STD	0030	1771	3636	2640	0016453	0049	15178								
		STD	0050	1772	3636	2640	0016533	0082	15181								
137		OBS	0053	1772	36360	2640			15182								
		STD	0075	1772	3636	2640	0016607	0123	15185								
137		OBS	0080	1772	36362	2640			15186								
		STD	0100	1772	3636	2640	0016686	0165	15190								
137		OBS	0109	1772	36363	2640			15191								
		STD	0125	1770	3636	2641	0016732	0207	15193								
		STD	0150	1769	3636	2641	0016816	0249	15197								
137		OBS	0165	1768	36358	2641			15199								
		STD	0200	1768	3645	2648	0016304	0332	15206								
137		OBS	T0220	1768	36479	2650			15209								
		STD	0250	1767	3646	2649	0016379	0413	15214								
		STD	0300	1744	3640	2650	0016441	0495	15215								
		STD	0400	1615	3617	2663	0015466	0655	15190								
137		OBS	T0446	1518	36021	2674			15165								
		STD	0500	1351	3576	2689	0013073	0798	15117								
137		OBS	0556	1191	35532	2704			15069								
		STD	0600	1071	3538	2714	0010715	0917	15033								
137		OBS	T0667	0917	35208	2727			14986								
		STD	0700	0874	3521	2734	0008821	1014	14975								
		STD	0800	0757	3519	2751	0007225	1094	14947								
		STD	0900	0655	3518	2765	0005935	1160	14923								
137		OBS	0907	0649	35182	2765			14922								
		STD	1000	0570	3511	2770	0005398	1217	14905								
		STD	1100	0502	3505	2773	0005030	1269	14893								
137		OBS	1150	0476	35032	2775			14891								
		STD	1200	0466	3503	2776	0004807	1318	14895								
		STD	1300	0446	3501	2777	0004792	1366	14903								
		STD	1400	0429	3500	2778	0004739	1414	14913								
137		OBS	1464	0418	34999	2779			14919								
		STD	1500	0412	3500	2779	0004629	1461	14923								
		STD	1750	0379	3498	2781	0004539	1575	14951								
137		OBS	T1788	0375	34976	2781			14955								

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REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSDEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CITY CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYL		AMT
311203		HU	3520 N	04800 W	113 58	02	01	126	1968	E08	023	4389	16	10	3	5		X1	4	5			0023
						WATER		WIND		BARO- METER		AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE	(mba)	DRY BULB	WET BULB											
								22	S17	580		189	183	7	14								
MESSNGR HR 1/10	TIME OF 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t ×10 ³		Σ Δ σ DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg · at/l	TOTAL-P μg · at/l	NO ₃ -N μg · at/l	NO ₃ -N μg · at/l	SiO ₄ -Si μg · at/l	pH					
			STD	0000	1755	3633	2642	0016156		0000	15168												
126			OBS	0000	1755	36334	2642				15168												
			STD	0010	1755	3633	2642	0016199		0016	15170												
			STD	0020	1756	3633	2642	0016243		0032	15171												
126			OBS	0026	1756	36334	2642				15172												
			STD	0030	1756	3633	2642	0016306		0049	15173												
			STD	0050	1755	3633	2642	0016356		0081	15176												
126			OBS	0051	1755	36328	2642				15176												
			STD	0075	1755	3633	2641	0016478		0122	15180												
126			OBS	0077	1755	36325	2641				15180												
			STD	0100	1754	3632	2641	0016564		0164	15184												
126			OBS	0102	1754	36322	2641				15184												
			STD	0125	1760	3634	2641	0016657		0205	15190												
			STD	0150	1767	3636	2641	0016750		0247	15196												
126			OBS	0152	1767	36367	2642				15197												
			STD	0200	1767	3646	2649	0016208		0329	15206												
126			OBS	T0203	1766	36461	2649				15206												
			STD	0250	1716	3636	2654	0015900		0410	15198												
			STD	0300	1652	3624	2660	0015475		0488	15185												
			STD	0400	1492	3597	2675	0014210		0637	15149												
126			OBS	T0414	1466	35924	2678				15142												
			STD	0500	1291	3565	2693	0012666		0771	15096												
126			OBS	0516	1253	35594	2696				15085												
			STD	0600	1015	3529	2717	0010379		0886	15011												
126			OBS	T0620	0968	35237	2721				14997												
			STD	0700	0864	3523	2738	0008475		0980	14972												
			STD	0800	0748	3521	2754	0006970		1058	14944												
126			OBS	0837	0709	35196	2758				14934												
			STD	0900	0646	3516	2764	0005973		1122	14920												
			STD	1000	0563	3510	2770	0005374		1179	14902												
126			OBS	T1060	0523	35073	2773				14896												
			STD	1100	0506	3506	2774	0005011		1231	14895												
			STD	1200	0468	3503	2776	0004833		1280	14896												
			STD	1300	0437	3500	2777	0004746		1328	14899												
126			OBS	1326	0430	34996	2777				14901												
			STD	1400	0413	3498	2778	0004673		1375	14906												
			STD	1500	0395	3497	2779	0004601		1422	14915												
126			OBS	T1598	0384	34967	2780				14927												

TABLE III.—Observed and interpolated oceanographic data for stations taken by USCGC ESCANABA at Ocean Station ECHO, 29 February–19 March 1968, prepared from NODC listing No. 31-1240

REFERENCE CITY CODE	SHIP NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	PORT INDICATOR	MARSOEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
							10"	1"	MO	DAY	HR.1/10	CRUISE NO.	DIR			HGT	PER	SEA	TYPE	AMOUNT			
311240	EN		35010N	047420W		113	57	02	29	127	1968	E09	001	4297	13	18	2	3		X1	2	6	0001
		WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIL CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS												
		COLOR CODE	TRAN- SP.	DIR.	SPEED OR FORCE		DRY BULB	WET BULB				19	515	163	144	139	7	14					
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-t	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO ₄ -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S C C						
		STD	0000	1746	3635	2646	0015809	0000	15165														
127		OBS	0000	1746	3635.3	2646			15165														
		STD	0010	1746	3635	2646	0015865	0016	15167														
		STD	0020	1746	3635	2646	0015899	0032	15169														
127		OBS	0022	1746	3634.9	2646			15169														
		STD	0030	1746	3634	2645	0015999	0048	15170														
127		OBS	0049	1745	3633.8	2645			15173														
		STD	0050	1745	3634	2645	0016054	0080	15173														
127		OBS	0067	1746	3634.1	2645			15176														
		STD	0075	1745	3634	2645	0016129	0120	15177														
127		OBS	0089	1742	3634.1	2646			15179														
		STD	0100	1734	3634	2648	0015952	0160	15178														
		STD	0125	1720	3635	2652	0015691	0200	15178														
127		OBS	0133	1716	3634.6	2653			15178														
		STD	0150	1714	3635	2653	0015601	0239	15181														
127		OBS	T0180	1704	3635.1	2656			15182														
		STD	0200	1685	3631	2657	0015392	0316	15180														
		STD	0250	1634	3620	2661	0015196	0393	15171														
		STD	0300	1575	3609	2666	0014839	0468	15160														
127		OBS	T0353	1506	3597.6	2673			15146														
		STD	0400	1436	3587	2680	0013748	0611	15130														
127		OBS	0440	1376	3578.6	2686			15116														
		STD	0500	1289	3567	2695	0012480	0742	15095														
127		OBS	T0522	1252	3562.8	2699			15086														
		STD	0600	1056	3538	2717	0010446	0856	15027														
127		OBS	0694	0860	3517.1	2734			14968														
		STD	0700	0849	3516	2734	0008745	0952	14965														
		STD	0800	0690	3508	2752	0007053	1031	14919														
127		OBS	T0853	0626	3504.6	2758			14902														
		STD	0900	0593	3505	2762	0006056	1097	14897														
		STD	1000	0534	3505	2769	0005373	1154	14890														
127		OBS	1065	0503	3504.6	2773			14888														
		STD	1100	0489	3505	2775	0004886	1205	14888														
		STD	1200	0458	3505	2778	0004591	1253	14892														
127		OBS	T1284	0443	3504.4	2780			14900														

REFERENCE CITY NO.	SHIP CODE	LATITUDE °	LONGITUDE °	NODC STATION NUMBER	MARDEN SQUARE				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
					10'	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		TYPE	AMT		
311240	EN	3503 N	04820 W	113	58	03	01	133	1968	E09	002		19	27	2	4		X1	8	5	0002
					WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
							30	S12	183	178	156	7	14								
MESSAGE TIME HR 1:10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₂ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SIO ₄ -Si $\mu g \cdot dl/l$	pH			ST C	
		STD	0000	1737	3635	2648	0015615		0000	15163											
133		OBS	0000	1737	36351	2648				15163											
		STD	0010	1735	3635	2648	0015613		0016	15164											
		STD	0020	1734	3635	2649	0015605		0031	15165											
		STD	0030	1732	3635	2649	0015602		0047	15166											
133		OBS	0032	1732	36352	2649				15167											
		STD	0050	1731	3635	2649	0015640		0078	15169											
133		OBS	0064	1730	36352	2650				15171											
		STD	0075	1730	3635	2650	0015702		0117	15173											
133		OBS	0096	1731	36354	2650				15177											
		STD	0100	1731	3636	2650	0015779		0157	15177											
		STD	0125	1728	3636	2651	0015784		0196	15181											
133		OBS	0129	1728	36360	2651				15181											
		STD	0150	1709	3633	2653	0015631		0235	15179											
133		OBS	0193	1673	36268	2657				15174											
		STD	0200	1669	3626	2657	0015390		0313	15174											
		STD	0250	1632	3620	2661	0015151		0389	15170											
133		OBS	T0257	1625	36189	2662				15169											
		STD	0300	1558	3607	2668	0014611		0464	15154											
		STD	0400	1384	3579	2685	0013250		0603	15112											
		STD	0500	1181	3552	2705	0011483		0727	15057											
133		OBS	T0513	1153	35480	2707				15049											
		STD	0600	0936	3522	2725	0009539		0832	14982											
133		OBS	0642	0846	35138	2733				14954											
		STD	0700	0737	3508	2745	0007591		0917	14921											
133		OBS	T0770	0631	35024	2755				14890											
		STD	0800	0609	3502	2758	0006334		0987	14886											
		STD	0900	0545	3501	2765	0005663		1047	14877											
		STD	1000	0491	3500	2771	0005138		1101	14872											
133		OBS	1028	0478	34999	2772				14871											
		STD	1100	0449	3499	2775	0004773		1151	14871											
		STD	1200	0418	3498	2777	0004549		1197	14875											
133		OBS	1284	0399	34969	2778				14881											
		STD	1300	0398	3497	2779	0004460		1242	14883											
		STD	1400	0395	3497	2779	0004512		1287	14898											
		STD	1500	0392	3497	2779	0004562		1332	14914											
133		OBS	1606	0389	34976	2780				14931											
		STD	1750	0387	3498	2780	0004669		1448	14954											
133		OBS	T1928	0386	34975	2780				14984											

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDIC	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT
311240	EN		34590N	047560W		113	47	03	03	064	1968	E09 003	4755	13	23	2	3		X1	8 1		0003	
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mb)		DRY BULB	WET BULB														
				24	S22	827	178	156	7	14													
MESSENGER TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C						
		STD	0000	1795	3644	2641	0016299	0000	15181														
064		OBS	0000	1795	36443	2641			15181														
		STD	0010	1796	3644	2641	0016346	0016	15183														
		STD	0020	1796	3644	2640	0016390	0033	15184														
064		OBS	0022	1796	36443	2640			15185														
		STD	0030	1796	3644	2640	0016449	0049	15186														
064		OBS	0045	1795	36437	2640			15188														
		STD	0050	1795	3644	2640	0016517	0082	15189														
064		OBS	0057	1795	36439	2640			15192														
		STD	0075	1795	3644	2640	0016583	0123	15193														
064		OBS	0089	1794	36449	2641			15195														
		STD	0100	1794	3646	2642	0016505	0165	15197														
		STD	0125	1795	3648	2644	0016461	0206	15202														
064		OBS	0134	1795	36485	2644			15203														
		STD	0150	1785	3647	2645	0016388	0247	15203														
064		OBS	T0177	1769	36454	2648			15202														
		STD	0200	1754	3643	2649	0016146	0328	15201														
		STD	0250	1721	3636	2653	0015994	0409	15199														
		STD	0300	1688	3630	2656	0015848	0488	15197														
064		OBS	T0347	1657	36244	2659			15194														
		STD	0400	1554	3606	2669	0014905	0642	15169														
064		OBS	0429	1496	35962	2674			15155														
		STD	0500	1346	3572	2687	0013261	0783	15115														
064		OBS	T0510	1324	35690	2690			15109														
		STD	0600	1107	3542	2711	0011078	0905	15046														
064		OBS	0670	0952	35254	2725			15000														
		STD	0700	0883	3520	2732	0009005	1005	14978														
		STD	0800	0692	3507	2751	0007155	1086	14920														
064		OBS	T0833	0641	35039	2755			14905														
		STD	0900	0569	3503	2764	0005820	1151	14887														
		STD	1000	0489	3503	2773	0004928	1205	14871														
064		OBS	1056	0460	35020	2776			14868														
		STD	1100	0459	3502	2776	0004668	1252	14875														
		STD	1200	0455	3502	2777	0004720	1299	14890														
064		OBS	T1285	0452	35023	2777			14903														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE MO DAY	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR		DEPTH TO BOTTOM	WAVE OBSERVATIONS	WEA- THER CODE	CLOUD CODE	NODC STATION NUMBER					
CITY CODE	ID. NO.								CRUISE NO.	STATION NUMBER										
311240	EN	35000N	047560W	113	57	03	06	129	1968	E09	006	4572	09	26	3	5	X1	8	7	0006
WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS											
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB														
				19	S15	112	178	144	7	14										
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	D ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₃ -N μg - dl/l	NO ₃ -N μg - dl/l	SIO ₄ -Si μg - dl/l	pH	CODE			
		STD	0000	1746	3640	2649	0015467	0000	15166											
129		OBS	0000	1746	36400	2649			15166											
		STD	0010	1748	3640	2649	0015548	0016	15168											
		STD	0020	1749	3640	2648	0015627	0031	15170											
129		OBS	0020	1749	36397	2648			15170											
		STD	0030	1749	3640	2648	0015662	0047	15172											
129		OBS	0038	1749	36397	2648			15173											
		STD	0050	1749	3639	2648	0015766	0078	15175											
129		OBS	0056	1749	36390	2648			15176											
129		OBS	0074	1749	36394	2648			15179											
		STD	0075	1749	3639	2648	0015867	0118	15179											
		STD	0100	1748	3639	2648	0015933	0157	15183											
129		OBS	0108	1748	36386	2648			15184											
		STD	0125	1730	3636	2650	0015813	0197	15181											
129		OBS	T0138	1718	36335	2651			15180											
		STD	0150	1714	3633	2652	0015741	0237	15180											
		STD	0200	1695	3631	2655	0015650	0315	15182											
		STD	0250	1676	3628	2657	0015559	0393	15185											
129		OBS	T0263	1671	36275	2658			15185											
		STD	0300	1601	3614	2664	0015053	0470	15168											
129		OBS	0316	1576	36093	2666			15163											
129		OBS	T0376	1514	36006	2673			15152											
		STD	0400	1465	3592	2678	0013997	0615	15140											
129		OBS	0489	1280	35641	2695			15090											
		STD	0500	1259	3561	2697	0012326	0746	15084											
		STD	0600	1048	3534	2715	0010596	0861	15024											
129		OBS	T0607	1032	35323	2717			15019											
		STD	0700	0748	3519	2752	0006948	0949	14927											
129		OBS	0763	0632	35130	2763			14891											
		STD	0800	0628	3513	2764	0005817	1013	14896											
		STD	0900	0618	3512	2764	0005878	1071	14908											
129		OBS	T0924	0616	35117	2765			14911											

REFERENCE	SHIP CODE	LATITUDE	LONGITUDE	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS	WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
					MO	DAY	HR./10		CRUISE NO.	STATION NUMBER				TYPE	AMT	

311240	EN	3501 N	04801 W	113 58	03	07	210	1968	E09	007	4389	14 26 2 3	X1	8 6		0007
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WATER		WIND		BARO-METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR	SPEED OR FORCE		DRY BULB	WET BULB			

		18	515	119	206	7	14		
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MESSNGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-307	$\Sigma \Delta D$ DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	TOTAL-P µg - at/l	NO ₃ -N µg - at/l	NO ₃ -N µg - at/l	SiO ₄ -Si µg - at/l	pH	S CODE
		STD	0000	1744	3637	2648	0015639	0000	15165								
210		OBS	0000	1744	36370	2648			15165								
		STD	0010	1745	3637	2647	0015703	0016	15167								
		STD	0020	1747	3637	2647	0015765	0031	15169								
210		OBS	0024	1747	36370	2647			15170								
		STD	0030	1745	3637	2647	0015765	0047	15170								
210		OBS	0048	1740	36366	2648			15172								
		STD	0050	1740	3637	2648	0015747	0079	15172								
210		OBS	0073	1740	36368	2648			15176								
		STD	0075	1740	3637	2648	0015817	0118	15176								
210		OBS	0098	1738	36369	2649			15179								
		STD	0100	1738	3637	2649	0015849	0158	15180								
		STD	0125	1732	3637	2650	0015823	0197	15182								
210		OBS	0149	1726	36362	2651			15184								
		STD	0150	1726	3636	2651	0015805	0237	15184								
210		OBS	T0199	1715	36340	2652			15189								
		STD	0200	1715	3634	2652	0015864	0316	15189								
		STD	0250	1685	3628	2655	0015774	0395	15187								
		STD	0300	1639	3620	2660	0015470	0473	15181								
210		OBS	T0390	1514	35994	2672			15154								
		STD	0400	1497	3596	2674	0014390	0623	15150								
210		OBS	0486	1322	35689	2690			15104								
		STD	0500	1280	3563	2694	0012593	0757	15092								
210		OBS	T0578	1074	35350	2711			15030								
		STD	0600	1030	3530	2715	0010569	0873	15017								
		STD	0700	0853	3515	2733	0008883	0971	14966								
210		OBS	0767	0753	35090	2743			14939								
		STD	0800	0709	3510	2751	0007187	1051	14927								
		STD	0900	0601	3513	2767	0005551	1115	14901								
210		OBS	0957	0555	35134	2774			14892								
		STD	1000	0543	3512	2774	0004952	1167	14894								
		STD	1100	0515	3508	2774	0004986	1217	14899								
210		OBS	1197	0487	35049	2775			14904								
		STD	1200	0486	3505	2775	0004942	1266	14904								
		STD	1300	0457	3502	2776	0004843	1315	14908								
		STD	1400	0427	3500	2778	0004727	1363	14912								
210		OBS	T1434	0417	34989	2778			14913								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	OBS. NO.	MARSDEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE CODE	IO. NO.						MO	DAY	HR.1/10	CRUISE NO.		STATION NUMBER	SPECIAL OBSERVATIONS			TYPE	AMT					
													WATER COLOR CODE					WIND DIR.		WIND SPEED OR FORCE	BARO- METER (mb)	
311240	EN	3459 N	04759 W	113	47	03	10	010	1968	E09	008	4572	16	30	3	3		X1	9	5	0008	
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIL CODE		NO. OBS. DEPTH		SPECIAL OBSERVATIONS								
		COLOR CODE		TRANS. (m)		DIR.		SPEED OR FORCE		DRY BULB		WET BULB		VIS. CODE		NO. OBS. DEPTH						
						30		518		166		133		100		7		14				
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-2107		Σ Δ O DYN. M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 01/1	TOTAL-P μg - 01/1	NO ₂ -N μg - 01/1	NO ₃ -N μg - 01/1	SiO ₄ -Si μg - 01/1	pH	DATE		
		STD	0000	1761	3641	2647		0015728		0000		15171										
010		OBS	0000	1761	36412	2647						15171										
		STD	0010	1763	3643	2648		0015679		0016		15173										
		STD	0020	1764	3644	2648		0015664		0031		15175										
010		OBS	0026	1765	36449	2649						15176										
		STD	0030	1765	3645	2648		0015675		0047		15177										
		STD	0050	1766	3644	2647		0015833		0079		15180										
010		OBS	0052	1766	36436	2647						15181										
		STD	0075	1765	3644	2647		0015908		0118		15184										
010		OBS	0078	1765	36436	2648						15185										
		STD	0100	1765	3644	2648		0015977		0158		15188										
010		OBS	0105	1765	36439	2648						15189										
		STD	0125	1764	3644	2648		0016069		0198		15192										
		STD	0150	1763	3643	2648		0016160		0238		15196										
010		OBS	0158	1763	36429	2647						15197										
		STD	0200	1738	3640	2651		0015963		0319		15196										
010		OBS	T0209	1732	36394	2652						15196										
		STD	0250	1717	3636	2653		0015933		0398		15198										
		STD	0300	1683	3630	2657		0015748		0478		15195										
		STD	0400	1560	3609	2669		0014820		0631		15172										
010		OBS	T0418	1530	36039	2672						15165										
		STD	0500	1362	3577	2688		0013225		0771		15121										
010		OBS	0521	1315	35697	2692						15108										
		STD	0600	1115	3541	2709		0011298		0893		15049										
010		OBS	T0623	1061	35343	2713						15032										
		STD	0700	0890	3520	2731		0009120		0995		14981										
		STD	0800	0710	3508	2749		0007349		1078		14927										
010		OBS	0838	0654	35044	2754						14911										
		STD	0900	0590	3504	2762		0006059		1145		14896										
		STD	1000	0503	3503	2772		0005075		1200		14877										
010		OBS	1058	0461	35025	2776						14869										
		STD	1100	0456	3502	2776		0004642		1249		14874										
		STD	1200	0444	3502	2778		0004588		1295		14886										
		STD	1300	0432	3501	2778		0004602		1341		14897										
010		OBS	1340		35009																	
		STD	1400	0420	3500	2779		0004613		1387		14909										
		STD	1500	0407	3499	2779		0004618		1433		14921										
010		OBS	T1626	0392	34978	2780						14935										

REFERENCE CIRCUIT NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE MO DAY	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	

WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. uml	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		21	S13	207	156	133	7	13	

MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	SEC
		STD	0000	1733	3635	2649	0015501	0000	15162								
160		OBS	0000	1733	36354	2649			15162								
		STD	0010	1735	3636	2649	0015570	0016	15164								
		STD	0020	1737	3636	2648	0015638	0031	15166								
160		OBS	0022	1737	36356	2648			15166								
		STD	0030	1737	3636	2648	0015686	0047	15168								
		STD	0050	1738	3636	2648	0015756	0078	15171								
160		OBS	0066	1738	36358	2648			15174								
		STD	0075	1738	3636	2648	0015829	0118	15175								
160		OBS	0088	1737	36363	2649			15177								
		STD	0100	1737	3636	2649	0015891	0157	15179								
		STD	0125	1737	3636	2649	0015976	0197	15183								
160		OBS	0132	1737	36358	2648			15184								
		STD	0150	1737	3636	2648	0016084	0237	15188								
160		OBS	T0177	1738	36358	2648			15192								
		STD	0200	1728	3634	2649	0016165	0318	15193								
		STD	0250	1695	3630	2654	0015859	0398	15191								
		STD	0300	1650	3623	2659	0015502	0476	15184								
160		OBS	T0355	1585	36118	2666			15172								
		STD	0400	1518	3600	2672	0014554	0627	15157								
160		OBS	0442	1450	35888	2678			15141								
		STD	0500	1351	3574	2688	0013218	0766	15117								
160		OBS	T0529	1293	35665	2694			15101								
		STD	0600	1081	3538	2712	0010896	0886	15036								
160		OBS	0695	0855	35124	2731			14966								
		STD	0700	0846	3512	2732	0008990	0986	14963								
		STD	0800	0687	3505	2750	0007229	1067	14918								
160		OBS	T0863	0617	35018	2757			14900								
		STD	0900	0609	3502	2758	0006465	1135	14903								
		STD	1000	0586	3503	2762	0006209	1198	14911								
160		OBS	1095	0558	35130	27730											
		STD	1100	0556	3504	2766	0005859	1259	14915								
		STD	1200	0522	3505	2771	0005449	1315	14918								
		STD	1300	0482	3506	2776	0004947	1367	14919								
160		OBS	T1338	0466	35058	2778			14919								

REFERENCE CITY CODE	SHIP NO.	LATITUDE ° 1/10	LONGITUDE ° 1/10	ORIG. NO.	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAR. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
					10°	1°	MO	DAY	HR	1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		VT
311240	EN	3456 N	04754 W	113	47	03	11	194	1968	E09	010		5084	16	25	1	2		X1	8	5	0010	
				WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO OBS. DEPTHS	SPECIAL OBSERVATIONS										
COLOR CODE		TRANS (m)	DIR	SPEED OR FORCE	DRY BULB	WET BULB																	
						207	206	172	7	14													
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SIO ₄ -S μg - dl/l	pH	CLC						
		STD	0000	1820	3640	2631	0017174	0000	15188														
194		OBS	0000	1820	36404	2631			15188														
		STD	0010	1809	3641	2635	0016912	0017	15186														
		STD	0020	1801	3642	2637	0016714	0034	15185														
194		OBS	0026	1797	36418	2638			15185														
		STD	0030	1796	3642	2638	0016619	0051	15186														
		STD	0050	1793	3642	2639	0016615	0084	15188														
194		OBS	0052	1793	36418	2639			15188														
		STD	0075	1791	3642	2639	0016677	0125	15192														
194		OBS	0079	1791	36414	2639			15192														
		STD	0100	1789	3641	2640	0016738	0167	15195														
194		OBS	0104	1789	36412	2640			15196														
		STD	0125	1788	3642	2640	0016755	0209	15199														
		STD	0150	1787	3643	2641	0016762	0251	15203														
194		OBS	0157	1787	36428	2641			15204														
		STD	0200	1784	3643	2642	0016827	0335	15210														
194		OBS	T0210	1782	36432	2642			15211														
		STD	0250	1756	3640	2647	0016583	0418	15210														
		STD	0300	1724	3635	2651	0016311	0501	15208														
		STD	0400	1659	3626	2660	0015782	0661	15204														
194		OBS	T0424	1643	36241	2662			15203														
		STD	0500	1466	3592	2677	0014312	0812	15156														
194		OBS	0529	1402	35817	2683			15139														
		STD	0600	1261	3561	2696	0012626	0946	15102														
194		OBS	T0637	1185	35517	2704			15081														
		STD	0700	1019	3537	2723	0010083	1060	15030														
		STD	0800	0804	3518	2743	0008062	1151	14965														
194		OBS	0850	0719	35117	2750			14939														
		STD	0900	0662	3509	2756	0006720	1224	14925														
		STD	1000	0570	3505	2765	0005839	1287	14904														
194		OBS	T1066	0523	35029	2769			14896														
		STD	1100	0514	3503	2770	0005339	1343	14898														
		STD	1200	0488	3503	2774	0005079	1395	14904														
		STD	1300	0464	3504	2777	0004842	1445	14911														
194		OBS	1341	0455	35037	2778			14914														
		STD	1400	0442	3503	2779	0004693	1492	14919														
		STD	1500	0423	3501	2779	0004681	1539	14927														
194		OBS	T1616	0402	34977	2779			14938														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH IN METERS	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODE STATION NUMBER
CTRY CODE	ID. NO.						10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA	
211	240	EN	36590N	047580W	113	47	03	12	187	1968	E09	011	4526	15	23	1	2	X1	6	2	0011	

311240	EN	34590N	047580W	113	47	03	12	187	1968	E09	011	4526	15	23	1	2		X1	6	2	0011
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WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS IMI	DIR	SPEED OF FORCE		DRY BULB	WET BULB			

		21	S12	193	200	178	7	14	
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MESSENGER TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°	S Δ D DYN. W X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₃ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	SCC
		STD	0000	1820	3643	2633	0017022	0000	15188								
187		OBS	0000	1820	36425	2633			15188								
		STD	0010	1811	3642	2635	0016880	0017	15187								
		STD	0020	1805	3642	2636	0016809	0034	15187								
187		OBS	0027	1801	36411	2637			15187								
		STD	0030	1800	3641	2637	0016764	0051	15187								
		STD	0050	1797	3641	2638	0016722	0084	15189								
187		OBS	0053	1796	36414	2638			15189								
		STD	0075	1794	3642	2639	0016711	0126	15193								
187		OBS	0079	1794	36425	2640			15193								
		STD	0100	1796	3643	2639	0016811	0168	15197								
187		OBS	0105	1797	36425	2639			15198								
		STD	0125	1795	3643	2639	0016850	0210	15201								
		STD	0150	1790	3643	2641	0016804	0252	15204								
187		OBS	0156	1788	36429	2641			15204								
		STD	0200	1770	3640	2644	0016684	0336	15206								
187		OBS	T0205	1768	36401	2644			15206								
		STD	0250	1764	3636	2642	0017010	0420	15212								
		STD	0300	1741	3632	2645	0016949	0505	15213								
		STD	0400	1638	3624	2663	0015515	0667	15197								
187		OBS	T0400	1638	36235	2663			15197								
187		OBS	0493	1474	35936	2677			15158								
		STD	0500	1458	3591	2678	0014214	0816	15154								
187		OBS	T0587	1268	35638	2697			15102								
		STD	0600	1244	3561	2699	0012292	0948	15096								
		STD	0700	1071	3539	2715	0010870	1064	15049								
		STD	0800	0913	3523	2730	0009480	1166	15006								
187		OBS	0849	0841	35173	2737			14987								
		STD	0900	0757	3514	2747	0007789	1252	14963								
		STD	1000	0624	3510	2762	0006238	1322	14927								
		STD	1100	0531	3506	2771	0005351	1380	14905								
187		OBS	T1108	0525	35057	2771			14904								
		STD	1200	0500	3504	2773	0005191	1433	14909								
		STD	1300	0473	3502	2774	0005081	1484	14915								
187		OBS	1315	0469	35018	2775			14915								
		STD	1400	0446	3500	2776	0004966	1535	14920								
		STD	1500	0418	3499	2778	0004761	1583	14925								
187		OBS	T1521	0412	34982	2778			14926								

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	CHART NUMBER	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
					10"	1"	MO	DAY	HR.1/10	CRUISE NO.		STATION NUMBER	SW			HGT	PER	SEA	TYPE	AMT			
311240	EN	34500N	048051W		113	48	03	13	093	1968		E09	012	5011	15	22	2	3		X1	8	3	0012
					WATER		WIND		BARO- METER	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
					COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB												
									21	509	230	172	161	7	14								
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °..	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S Δ D DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl.	TOTAL-P μg - dl.	NO ₂ -N μg - dl.	NO ₃ -N μg - dl.	SIO ₄ -Si μg - dl.	pH	S C C						
		STD	0000	1793	3640	2638	0016536	0000	15180														
093		OBS	0000	1793	36404	2638			15180														
		STD	0010	1793	3641	2638	0016565	0017	15182														
		STD	0020	1794	3641	2638	0016595	0033	15183														
093		OBS	0025	1794	36409	2638			15184														
		STD	0030	1794	3641	2638	0016635	0050	15185														
093		OBS	0049	1794	36406	2638			15188														
		STD	0050	1794	3641	2638	0016719	0083	15188														
093		OBS	0073	1792	36401	2638			15191														
		STD	0075	1792	3640	2638	0016795	0125	15192														
093		OBS	0097	1791	36400	2638			15195														
		STD	0100	1791	3640	2638	0016862	0167	15196														
		STD	0125	1793	3641	2639	0016904	0209	15200														
093		OBS	0146	1795	36424	2639			15204														
		STD	0150	1793	3642	2639	0016940	0252	15204														
093		OBS	T0196	1772	36403	2643			15206														
		STD	0200	1772	3640	2643	0016768	0336	15206														
		STD	0250	1763	3635	2642	0017051	0420	15211														
		STD	0300	1734	3631	2645	0016872	0505	15211														
093		OBS	T0390	1636	36226	2662			15195														
		STD	0400	1620	3619	2663	0015434	0667	15191														
093		OBS	0486	1464	35924	2678			15153														
		STD	0500	1434	3587	2680	0013995	0814	15146														
093		OBS	T0585	1254	35605	2697			15097														
		STD	0600	1216	3556	2701	0012111	0944	15086														
		STD	0700	0991	3530	2722	0010102	1055	15019														
093		OBS	0786	0837	35161	2736			14975														
		STD	0800	0819	3516	2739	0008447	1148	14970														
		STD	0900	0704	3513	2754	0007050	1226	14942														
093		OBS	0989	0619	35100	2763			14923														
		STD	1000	0611	3510	2764	0006051	1291	14922														
		STD	1100	0545	3506	2769	0005544	1349	14911														
		STD	1200	0492	3503	2773	0005156	1403	14906														
093		OBS	1246	0472	35019	2774			14905														
		STD	1300	0452	3501	2776	0004872	1453	14906														
		STD	1400	0425	3499	2777	0004744	1501	14911														
		STD	1500	0411	3497	2778	0004784	1549	14922														
093		OBS	T1502	0411	34974	2778			14922														

REFERENCE	SHIP CODE	LATITUDE ° ' 10	LONGITUDE ° ' 10	MARDEN SQUARE 10° 1' MO DAT HR 1/10	STATION TIME (GMT) 124 1968	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES	NOOC STATION NUMBER	
							CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	
311240	EN	3458 N	04756 W	113 47 03 14	124 1968		EO9 013		4572	15	16	1	3		X1	8 4	0013
				WATER		WIND		AIR TEMP. °C		NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO-METER (mba)	DRY BULB	WET BULB	VIS. CODE						
							15	512	328	206	183	7	14				
MESSAGE TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S Δ D DYN. M. $\times 10^3$	SOUND VELOCITY	D ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl/l}$	TOTAL-P $\mu\text{g} \cdot \text{dl/l}$	NO ₂ -N $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{dl/l}$	pH	3 C
		STD	0000	1808	3643	2636	0016737	0000	15184								
124		OBS	0000	1808	36425	2636			15184								
		STD	0010	1804	3642	2637	0016692	0017	15185								
		STD	0020	1800	3642	2638	0016647	0033	15185								
124		OBS	0024	1799	36420	2638			15186								
		STD	0030	1798	3642	2638	0016642	0050	15186								
124		OBS	0049	1795	36420	2639			15189								
		STD	0050	1795	3642	2639	0016641	0083	15189								
124		OBS	0073	1792	36413	2639			15192								
		STD	0075	1792	3641	2639	0016703	0125	15192								
124		OBS	0098	1793	36421	2639			15196								
		STD	0100	1793	3642	2639	0016760	0167	15196								
		STD	0125	1788	3642	2641	0016728	0209	15199								
124		OBS	0147	1784	36420	2642			15201								
		STD	0150	1784	3642	2642	0016727	0250	15202								
124		OBS	T0197	1776	36421	2644			15207								
		STD	0200	1775	3642	2644	0016681	0334	15208								
		STD	0250	1761	3642	2647	0016556	0417	15211								
		STD	0300	1746	3641	2650	0016422	0500	15215								
124		OBS	T0391	1720	36400	2656			15222								
		STD	0400	1711	3638	2656	0016147	0662	15221								
124		OBS	0489	1572	36116	2669			15190								
		STD	0500	1543	3607	2672	0014897	0818	15183								
124		OBS	T0587	1318	35718	2693			15120								
		STD	0600	1280	3567	2697	0012566	0955	15109								
		STD	0700	1024	3534	2719	0010390	1070	15032								
124		OBS	0779	0863	35183	2734			14984								
		STD	0800	0831	3518	2739	0008493	1164	14975								
		STD	0900	0699	3515	2756	0006829	1241	14940								
124		OBS	T0971	0625	35129	2764			14923								
		STD	1000	0605	3512	2766	0005811	1304	14919								
		STD	1100	0544	3509	2772	0005288	1359	14911								
		STD	1200	0497	3506	2775	0004974	1411	14908								
124		OBS	1212	0492	35061	2775			14908								
		STD	1300	0464	3504	2777	0004813	1460	14911								
		STD	1400	0444	3502	2778	0004793	1508	14919								
124		OBS	T1451	0440	35014	2778			14926								

REFERENCE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	WASDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	MO DAY HR 1/10		CRUISE NO.	STATION NUMBER			DR.	HGT	PER	SEA		TYPE	AMT	
311240	EN	3514 N	04741 W	113 57	03	15	092	1968	E09	014	2012	15	13	1	3		X1	8	3	0014
				WATER		WIND		BARO-METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
							13 S10	325	178	172	7	14								
MESSING TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Delta \rho$ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ml/l	TOTAL-P µg - ml/l	NO ₃ -N µg - ml/l	NO ₃ -N µg - ml/l	SiO ₄ -S µg - ml/l	pH				
		STD	0000	1824	3643	2633	0017066	0000	15189											
092		OBS	0000	1824	36432	2633			15189											
		STD	0010	1810	3643	2636	0016798	0017	15187											
		STD	0020	1800	3642	2638	0016625	0034	15185											
092		OBS	0024	1797	36422	2639			15185											
		STD	0030	1795	3642	2639	0016571	0050	15185											
092		OBS	0049	1789	36418	2640			15187											
		STD	0050	1789	3642	2640	0016499	0083	15187											
092		OBS	0073	1785	36424	2642			15190											
		STD	0075	1785	3642	2641	0016492	0125	15190											
092		OBS	0098	1784	36410	2641			15193											
		STD	0100	1784	3641	2641	0016627	0166	15194											
		STD	0125	1783	3641	2641	0016683	0208	15197											
092		OBS	0148	1782	36412	2641			15201											
		STD	0150	1782	3641	2642	0016731	0249	15201											
092		OBS	T0197	1778	36426	2644			15208											
		STD	0200	1777	3643	2644	0016688	0333	15208											
		STD	0250	1753	3640	2648	0016490	0416	15209											
		STD	0300	1729	3637	2651	0016287	0498	15210											
092		OBS	T0392	1686	36327	2658			15212											
		STD	0400	1677	3631	2659	0015865	0659	15210											
092		OBS	0490	1535	36042	2671			15178											
		STD	0500	1510	3600	2674	0014681	0811	15171											
092		OBS	T0585	1307	35682	2692			15116											
		STD	0600	1272	3563	2695	0012698	0948	15106											
		STD	0700	1053	3537	2717	0010690	1065	15043											
092		OBS	0781	0900	35217	2731			14998											
		STD	0800	0865	3520	2735	0008900	1163	14988											
		STD	0900	0708	3514	2754	0007037	1243	14944											
092		OBS	T0975	0618	35106	2763			14920											
		STD	1000	0602	3510	2765	0005930	1308	14918											
		STD	1100	0544	3507	2770	0005435	1364	14911											
		STD	1200	0500	3505	2773	0005147	1417	14909											
092		OBS	1219	0493	35041	2774			14910											
		STD	1300	0468	3503	2776	0004940	1468	14913											
		STD	1400	0449	3502	2777	0004861	1517	14921											
092		OBS	T1462	0444	35017	2777			14930											

REFERENCE	SHIP CODE	LATITUDE N 10	LONGITUDE W 10	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
					10'	1'	M/O DAY HR, 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311240 EN 35265N 04752 W 113 57 03 16 163 1968 E09 015 4755 15 09 1 2 X4 8 6 0015

WATER		WIND		AIR TEMP °C		NO. OBS DEPTHS		SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO-METER (mba)	DBT BULB	WET BULB	VIS CODE	
		07	S10	335	183	178	7	14

MESSAGE TIME 0 HR 1, 10	CAST NO	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ⁷	$\Sigma \Delta D$ DYN. M x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	TOTAL-P µg - at/l	NO ₂ -N µg - at/l	NO ₃ -N µg - at/l	SiO ₄ -Si µg - at/l	pH	S C
		STD	0000	1840	3644	2629	0017396	0000	15194								
163		OBS	0000	1840	36440	2629			15194								
		STD	0010	1831	3643	2631	0017260	0017	15193								
		STD	0020	1824	3643	2633	0017141	0034	15192								
163		OBS	0025	1820	36429	2633			15192								
		STD	0030	1816	3643	2634	0017022	0051	15192								
		STD	0050	1805	3642	2637	0016856	0085	15192								
163		OBS	0050	1805	36424	2637			15192								
		STD	0075	1799	3642	2638	0016798	0127	15194								
163		OBS	0075	1799	36424	2638			15194								
163		OBS	0099	1782	36433	2643			15193								
		STD	0100	1782	3643	2643	0016412	0169	15193								
		STD	0125	1778	3644	2645	0016362	0210	15196								
		STD	0150	1775	3644	2646	0016339	0250	15200								
163		OBS	0150	1775	36445	2646			15200								
163		OBS	T0199	1771	36452	2647			15207								
		STD	0200	1770	3645	2647	0016356	0332	15207								
		STD	0250	1741	3640	2651	0016164	0413	15205								
		STD	0300	1711	3636	2655	0015976	0494	15204								
163		OBS	T0397	1653	36267	2662			15202								
		STD	0400	1646	3625	2662	0015566	0652	15200								
163		OBS	0499	1418	35856	2683			15140								
		STD	0500	1416	3585	2683	0013744	0798	15139								
		STD	0600	1200	3554	2702	0011975	0927	15080								
163		OBS	T0600	1200													
		STD	0700	0973	3530	2725	0009760	1035	15013								
163		OBS	0799	0795	35156	2742			14961								
		STD	0800	0794	3516	2743	0008081	1125	14960								
		STD	0900	0671	3513	2758	0006541	1198	14929								
163		OBS	T0999	0576	35104	2769			14907								
		STD	1000	0575	3510	2769	0005521	1258	14907								
		STD	1100	0519	3506	2772	0005165	1311	14901								
		STD	1200	0475	3503	2775	0004923	1362	14899								
163		OBS	1253	0457	35018	2776			14900								
		STD	1300	0450	3501	2776	0004823	1411	14905								
		STD	1400	0436	3500	2777	0004807	1459	14916								
		STD	1500	0422	3499	2778	0004784	1507	14927								
163		OBS	T1518	0419	34991	2778			14928								

REFERENCE	SHIP CODE	LATITUDE	LONGITUDE	MARS DEN INDEX	MARS DEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S	DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS	WEATHER CODE	CLOUD CODES	NODC STATION NUMBER									
CRUISE NO.	ID. NO.	1/10	1/10	10°	1°	MO	DAY	HR	1/10	CRUISE NO.	STATION NUMBER	DIR	HGT	PER	SEA	TYPE	NO.						
311240	EN	3503 N	04804 W	113	58	03	17	164	1968	E09	016	3749	42	06	1	3	X8	8	6	0016			
WATER		WIND		AIR TEMP		SPECIAL OBSERVATIONS		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS	
COLOR CODE	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR	WAVE DIR
06	S10	312	183	178	7	19																	
MESSING TIME	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °C	SIGMA-T	SPECIFIC VOLUME ANOMALY-310°	Σ Δ D DYN. M x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₃ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	DATE						
		STD	0000	1854	3647	2628	0017479	0000	15198														
164	OBS	0000	1854	36474	2628				15198														
	STD	0010	1850	3647	2629	0017447	0017	15199															
	STD	0020	1842	3646	2630	0017363	0035	15198															
164	OBS	0025	1836	36458	2632				15197														
	STD	0030	1823	3645	2634	0017017	0052	15194															
	STD	0050	1790	3643	2641	0016487	0086	15187															
164	OBS	0050	1790	36425	2641				15187														
	STD	0075	1789	3643	2641	0016542	0127	15191															
164	OBS	0075	1789	36426	2641				15191														
164	OBS	0099	1789	36427	2641				15195														
	STD	0100	1789	3643	2641	0016622	0168	15195															
	STD	0125	1787	3643	2641	0016668	0210	15199															
164	OBS	0149	1784	36424	2642				15202														
	STD	0150	1784	3642	2642	0016727	0252	15202															
164	OBS	T0197	1772	36408	2644				15206														
	STD	0200	1771	3641	2644	0016681	0335	15206															
	STD	0250	1755	3640	2647	0016549	0418	15210															
	STD	0300	1739	3639	2650	0016420	0501	15213															
164	OBS	T0399	1708	36369	2656				15220														
	STD	0400	1706	3637	2656	0016131	0663	15219															
164	OBS	0498	1537	36056	2672				15180														
	STD	0500	1533	3605	2672	0014822	0818	15179															
164	OBS	T0599	1331	35735	2692				15126														
	STD	0600	1328	3573	2692	0013096	0958	15126															
	STD	0700	1078	3541	2715	0010851	1078	15052															
164	OBS	0799	0876	35206	2734				14992														
	STD	0800	0874	3521	2734	0009004	1177	14992															
	STD	0900	0720	3516	2754	0007051	1257	14949															
	STD	1000	0604	3512	2766	0005797	1321	14919															
164	OBS	T1000	0604	35121	2766				14919														
	STD	1100	0548	3509	2771	0005366	1377	14913															
	STD	1200	0502	3506	2774	0005071	1429	14910															
164	OBS	1253	0482	35047	2775				14911														
	STD	1300	0470	3504	2776	0004894	1479	14914															
	STD	1400	0447	3502	2777	0004834	1528	14921															
	STD	1500	0428	3501	2779	0004749	1576	14929															
164	OBS	T1504	0427	35006	2778				14930														
	STD	1750	0399	3500	2781	0004658	1693	14959															
194	OBS	T1935	0381	34992	2782				14983														
	STD	2000	0381	3499	2782	0004689	1810	14994															
194	OBS	2436	0347	34985	2785				15054														
	STD	2500	0330	3497	2785	0004495	2040	15058															
194	OBS	2927	0239	34907	2789				15092														
	STD	3000	0238	3491	2789	0003900	2250	15104															
	STD	4000	0226	3490	2789	0004198	2654	15273															
194	OBS	4152	0224	34902	2790				15300														
194	OBS	T4239	0226	34903	2789				15316														

REFERENCE CITY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARKSDEN SQUARE 10° 1°	STATION TIME (GMT) MO DAY HR. 1/10	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA	TYPE	AMT	

311240	EN		3500 N	04801 W	113 58 03	18 100	1968	E09	017	4069	14	05	1	3		X1	8	6	0017
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

			06	S10	300	178	167	7	14
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MESSING TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S.A.D. NO. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PD ₄ -P µg - 01/1	TOTAL-P µg - 01/1	NO ₃ -N µg - 01/1	NO ₃ -N µg - 01/1	SiD ₄ -Si µg - 01/1	pH	S C
		STO	0000	1835	3647	2633	0017067	0000	15193								
100		OBS	0000	1835	36468	2633			15193								
		STO	0010	1835	3647	2632	0017117	0017	15194								
		STO	0020	1830	3646	2634	0017047	0034	15194								
100		OBS	0024	1826	36463	2634			15194								
		STO	0030	1813	3645	2637	0016779	0051	15191								
100		OBS	0049	1786	36428	2642			15186								
		STO	0050	1786	3643	2642	0016356	0084	15186								
100		OBS	0072	1785	36437	2643			15190								
		STO	0075	1785	3644	2643	0016376	0125	15190								
100		OBS	0096	1785	36428	2642			15193								
		STO	0100	1785	3643	2642	0016506	0166	15194								
		STO	0125	1784	3643	2642	0016568	0208	15198								
100		OBS	0144	1783	36435	2643			15201								
		STO	0150	1783	3644	2643	0016559	0249	15202								
100		OBS	T0193	1782	36442	2644			15209								
		STO	0200	1780	3644	2644	0016652	0332	15209								
		STO	0250	1768	3644	2647	0016542	0415	15214								
		STO	0300	1755	3644	2650	0016424	0497	15218								
100		OBS	T0381	1735	36436	2655			15226								
		STO	0400	1710	3639	2657	0016051	0660	15221								
100		OBS	0473	1588	36164	2669			15193								
		STO	0500	1522	3604	2674	0014653	0813	15176								
100		OBS	T0573	1350	35749	2689			15129								
		STO	0600	1289	3565	2694	0012891	0951	15112								
		STO	0700	1078	3537	2712	0011143	1071	15052								
100		OBS	0762	0958	35249	2724			15017								
		STO	0800	0879	3524	2736	0008838	1171	14994								
		STO	0900	0708	3520	2759	0006598	1248	14945								
100		OBS	T0950	0643	35173	2765			14927								
		STO	1000	0611	3514	2767	0005757	1310	14922								
		STO	1100	0555	3508	2769	0005537	1367	14915								
100		OBS	1187	0515	35037	2771			14913								
		STO	1200	0510	3503	2771	0005401	1421	14913								
		STO	1300	0475	3501	2773	0005181	1474	14915								
		STO	1400	0451	3500	2775	0005034	1525	14922								
100		OBS	T1421	0447	34998	2776			14924								

REFERENCE	SHIP CODE	LATITUDE	LONGITUDE	DATE	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER								
					10°	1°	MO	DAY		CRUISE NO.	DIR			HGT	PER	TYPE		AMT										
311240	EN	35080N	047580W	113	57	03	19	097	1968	E09	018	3383	16	09	2	3		X1	8	4	0018							
					WATER		WIND		BARO-METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS													
					COLOR CODE	TRANS. UNIT	DIR.	SPEED OF FORCE	DRY BULB	WET BULB																		
							09	S14	308	172	156	7	14															
MESSAGE TIME OF HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - σ _t /l	TOTAL-P μg - σ _t /l	NO ₂ -N μg - σ _t /l	NO ₃ -N μg - σ _t /l	SIO ₄ -Si μg - σ _t /l	pH	S C											
		STD	0000	1864	3641	2620	0018213	0000	15200																			
097		OBS	0000	1864	36406	2620			15200																			
		STD	0010	1863	3641	2621	0018222	0018	15201																			
		STD	0020	1862	3641	2621	0018229	0036	15203																			
097		OBS	0026	1861	36406	2621			15203																			
		STD	0030	1847	3640	2624	0017947	0055	15200																			
		STD	0050	1799	3637	2634	0017076	0090	15189																			
097		OBS	0051	1798	36372	2634			15189																			
		STD	0075	1790	3634	2634	0017183	0132	15190																			
097		OBS	0077	1789	36335	2634			15190																			
		STD	0100	1787	3633	2634	0017283	0175	15194																			
097		OBS	0102	1787	36327	2634			15194																			
		STD	0125	1785	3633	2634	0017322	0219	15197																			
		STD	0150	1783	3633	2635	0017361	0262	15201																			
097		OBS	0153	1783	36332	2635			15201																			
		STD	0200	1776	3633	2637	0017362	0349	15207																			
097		OBS	T0205	1775	36328	2637			15207																			
		STD	0250	1758	3632	2640	0017214	0435	15209																			
		STD	0300	1739	3630	2643	0017047	0521	15212																			
		STD	0400	1701	3627	2650	0016709	0690	15217																			
097		OBS	T0408	1698	36268	2651			15217																			
		STD	0500	1537	3597	2665	0015489	0851	15179																			
097		OBS	0511	1516	35932	2667			15174																			
		STD	0600	1339	3566	2684	0013828	0997	15128																			
097		OBS	T0619	1300	35604	2688			15118																			
		STD	0700	1104	3536	2707	0011693	1125	15061																			
		STD	0800	0905	3515	2725	0009930	1233	15002																			
097		OBS	0820	0871	35116	2727			14993																			
		STD	0900	0761	3507	2741	0008364	1324	14963																			
		STD	1000	0652	3503	2753	0007160	1402	14937																			
097		OBS	T1022	0632	35021	2755			14932																			
		STD	1100	0592	3501	2759	0006574	1471	14929																			
		STD	1200	0546	3499	2763	0006194	1535	14927																			
097		OBS	1292	0511	34970	2766			14928																			
		STD	1300	0508	3497	2766	0005927	1595	14928																			
		STD	1400	0477	3495	2768	0005755	1654	14932																			
		STD	1500	0454	3493	2769	0005688	1711	14939																			
097		OBS	T1556	0444	34923	2770			14944																			

TABLE IV.—Observed and interpolated oceanographic data for stations taken by USCGC MENDOTA at Ocean Station ECHO, 12 April–4 May 1968, prepared from NODC listing No. 31-1262

MESSNGR HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\delta 10^3$	$\Sigma \Delta$ O DTN. M. $\times 10^3$	SOUND VELOCITY	D ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl/l}$	TOTAL-P $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{dl/l}$	pH	S C
		STD	0000	1872	3644	2621	0018145	0000	15203								
179		OBS	0000	1872	36442	2621			15203								
		STD	0010	1850	3644	2626	0017680	0018	15198								
		STD	0020	1829	3644	2632	0017234	0035	15194								
179		OBS	0024	1821	36433	2633			15192								
		STD	0030	1808	3643	2636	0016806	0052	15189								
179		OBS	0047	1781	36419	2642			15184								
		STD	0050	1780	3642	2643	0016287	0085	15184								
179		OBS	0071	1773	36437	2646			15186								
		STD	0075	1770	3643	2646	0016067	0126	15186								
179		OBS	0092	1759	36414	2647			15185								
		STD	0100	1751	3640	2648	0015926	0166	15184								
		STD	0125	1731	3636	2650	0015837	0206	15182								
179		OBS	0141	1723	36350	2651			15182								
		STD	0150	1723	3635	2651	0015808	0245	15183								
179		OBS	T0190	1719	36348	2652			15189								
		STD	0200	1715	3634	2652	0015864	0324	15189								
		STD	0250	1688	3630	2656	0015698	0403	15189								
		STD	0300	1652	3624	2660	0015475	0481	15185								
179		OBS	T0377	1577	36109	2667			15173								
		STD	0400	1546	3605	2670	0014802	0633	15167								
179		OBS	0471	1454	35895	2678			15147								
		STD	0500	1420	3586	2683	0013773	0775	15141								
179		OBS	T0564	1341	35760	2692			15124								
		STD	0600	1294	3568	2695	0012773	0908	15114								
		STD	0700	1150	3547	2707	0011751	1031	15078								
179		OBS	0759	1056	35364	2716			15053								
		STD	0800	0987	3530	2723	0010243	1141	15034								
		STD	0900	0806	3516	2741	0008417	1234	14982								
179		OBS	T0959	0690	35094	2753			14946								
179		*STD	1214	0532	35088	2773	0005297	1449	14925								
179		*STD	1475	0477	35048	2776	0005119	1585	14946								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS	WEA- THER CODE	CLOUD CODE	NODC STATION NUMBER	
CTRY CODE	IO. NO.					MO	DAY	HR 1/10		CRUISE NO.	STATION NUMBER						
311262	ME		35028N	048017W	113 58	04	13	121	1968	E10	002	4572	14	14	2	Y1 3 6	0002
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
COLOR CODE	TRNS. (m)	DIR.	SPEED OR FORCE	DIR.	WIND OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB								
		15	S10	240	200	200	7	14									
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANDALTY-25°	S Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml	PO ₄ -P μg - ml	TOTAL-P μg - ml	NO ₃ -N μg - ml	NH ₄ -N μg - ml	SIO ₄ -S μg - ml	PH	3 OC
		STD	0000	1855	3643	2625	0017830	0000	15198								
121		OBS	0000	1855	36429	2625			15198								
		STD	0010	1853	3643	2625	0017839	0018	15199								
		STD	0020	1851	3642	2625	0017850	0036	15200								
121		OBS	0022	1850	36420	2625			15200								
		STD	0030	1814	3640	2633	0017166	0053	15191								
121		OBS	0045	1772	36380	2642			15181								
		STD	0050	1772	3640	2643	0016250	0087	15182								
121		OBS	0067	1773	36432	2645			15185								
		STD	0075	1772	3643	2645	0016099	0127	15186								
121		OBS	0090	1767	36432	2647			15187								
		STD	0100	1753	3640	2648	0015973	0167	15184								
		STD	0125	1729	3633	2648	0016008	0207	15181								
121		OBS	0135	1723	36321	2649			15180								
		STD	0150	1723	3633	2650	0015947	0247	15183								
121		OBS	T0179	1722	36344	2651			15188								
		STD	0200	1717	3634	2652	0015910	0327	15189								
		STD	0250	1697	3631	2654	0015833	0406	15191								
		STD	0300	1667	3626	2658	0015671	0485	15190								
121		OBS	T0356	1621	36189	2663			15184								
		STD	0400	1574	3610	2667	0015057	0638	15176								
121		OBS	0445	1520	36018	2673			15166								
		STD	0500	1449	3592	2681	0013950	0783	15151								
121		OBS	T0535	1398	35847	2686			15139								
		STD	0600	1281	3567	2697	0012586	0916	15109								
		STD	0700	1099	3543	2713	0011091	1035	15060								
121		OBS	0714	1074	35398	2715			15053								
		STD	0800	0895	3523	2733	0009178	1136	15000								
121		OBS	T0895	0743	35107	2746			14956								
		STD	0900	0739	3511	2747	0007752	1221	14955								
		STD	1000	0657	3511	2758	0006684	1293	14940								
		STD	1100	0589	3510	2767	0005842	1355	14929								
121		OBS	1136	0568	35103	2770			14927								
		STD	1200	0535	3509	2773	0005307	1411	14924								
		STD	1300	0494	3507	2776	0005002	1463	14924								
121		OBS	T1390	0468	35032	2776			14928								

REFERENCE SHIP CODE	SHIP NO.	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		TYPE	AMT	

311262	ME	34589N	047586W	113	47	04	14	120	1968	E10 003	3840	15	12		2	X1	4	5	0003
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. UM	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
			12	515	227	206	194	8	14

MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot ml^{-1}$	TOTAL-P $\mu g \cdot ml^{-1}$	NO ₂ -N $\mu g \cdot ml^{-1}$	NO ₃ -N $\mu g \cdot ml^{-1}$	SiO ₄ -Si $\mu g \cdot ml^{-1}$	pH	3 CON
		STO	0000	1855	3640	2623	0018018	0000	15197								
120		OBS	0000	1855	36403	2623			15197								
		STO	0010	1828	3640	2629	0017407	0018	15191								
		STO	0020	1806	3640	2635	0016912	0035	15187								
120		OBS	0026	1796	36404	2637			15185								
		STO	0030	1792	3640	2638	0016617	0052	15184								
		STO	0050	1774	3640	2643	0016285	0085	15182								
120		OBS	0051	1773	36401	2643			15182								
		STO	0075	1762	3642	2647	0015930	0125	15183								
120		OBS	0077	1761	36425	2648			15183								
		STO	0100	1748	3639	2648	0015914	0165	15183								
120		OBS	0101	1747	36390	2648			15183								
		STO	0125	1734	3637	2650	0015846	0204	15182								
		STO	0150	1720	3634	2651	0015781	0244	15182								
120		OBS	0151	1719	36342	2652			15182								
		STO	0200	1735	3641	2653	0015828	0323	15196								
120		OBS	T0202	1736	36416	2653			15196								
		STO	0250	1704	3634	2655	0015777	0402	15194								
		STO	0300	1662	3626	2659	0015557	0480	15188								
120		OBS	T0395	1556	36080	2670			15169								
		STO	0400	1548	3607	2671	0014701	0632	15168								
120		OBS	0497	1406	35866	2686			15136								
		STO	0500	1403	3586	2686	0013418	0772	15135								
120		OBS	T0593	1298	35709	2696			15114								
		STO	0600	1284	3569	2698	0012501	0902	15110								
		STO	0700	1095	3540	2711	0011235	1020	15058								
120		OBS	0792	0942	35221	2724			15016								
		STO	0800	0929	3522	2726	0009824	1126	15012								
		STO	0900	0785	3517	2745	0008009	1215	14974								
120		OBS	T0994	0675	35130	2758			14946								
		STO	1000	0670	3513	2758	0006694	1288	14945								
		STO	1100	0594	3510	2766	0005943	1352	14931								
		STO	1200	0532	3507	2771	0005412	1408	14923								
120		OBS	1255	0504	35053	2773			14920								
		STO	1300	0484	3504	2775	0005084	1461	14919								
		STO	1400	0461	3501	2776	0004961	1511	14922								
		STO	1500	0433	3499	2776	0004963	1561	14931								
120		OBS	T1519	0431	34986	2776			14934								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	HARDEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS		WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CRUISE CODE	ID. NO.					10°	1°		CRUISE NO.	STATION NUMBER			DIR	HGT		PER	SEA		TYPE	AMOUNT
311262	ME		35092N	047527W	113	57	04	15	146	1968	E10	004	3749	16	10		2	X1	4 1	0004

WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR	SPEED OR FORCE		DRY BULB	WET BULB			
		14	517	227	206	206	7	14	

MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	$\Sigma \Delta D$ DYN. M $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PD ₄ -P $\mu g \cdot dl^{-1}$	TOTAL-P $\mu g \cdot dl^{-1}$	NO ₂ -N $\mu g \cdot dl^{-1}$	NO ₃ -N $\mu g \cdot dl^{-1}$	SiO ₄ -S $\mu g \cdot dl^{-1}$	pH	S C
		STD	0000	1816	3637	2629	0017362	0000	15186								
146		OBS	0000	1816	36365	2629			15186								
		STD	0010	1789	3637	2636	0016745	0017	15180								
		STD	0020	1767	3637	2642	0016257	0034	15175								
146		OBS	0025	1757	36369	2644			15173								
		STD	0030	1749	3637	2646	0015879	0050	15171								
		STD	0050	1726	3636	2651	0015481	0081	15168								
146		OBS	0050	1726	36358	2651			15168								
		STD	0075	1719	3634	2651	0015528	0120	15170								
146		OBS	0076	1719	36341	2651			15170								
		STD	0100	1718	3636	2653	0015474	0158	15174								
146		OBS	0100	1718	36357	2653			15174								
		STD	0125	1719	3636	2653	0015548	0197	15178								
		STD	0150	1719	3636	2653	0015643	0236	15182								
146		OBS	0151	1719	36361	2653			15182								
		STD	0200	1719	3636	2653	0015782	0315	15190								
146		OBS	T0202	1719	36364	2653			15191								
		STD	0250	1673	3628	2658	0015500	0393	15184								
		STD	0300	1621	3619	2663	0015137	0470	15175								
		STD	0400	1511	3601	2674	0014329	0617	15155								
146		OBS	T0411	1498	35990	2676			15153								
		STD	0500	1387	3582	2687	0013376	0755	15130								
146		OBS	0507	1380	35813	2687			15128								
		STD	0600	1298	3572	2697	0012548	0885	15115								
146		OBS	T0602	1296	35720	2698			15115								
		STD	0700	1081	3544	2717	0010687	1001	15054								
		STD	0800	0905	3525	2733	0009199	1101	15004								
146		OBS	0805	0897	35242	2733			15001								
		STD	0900	0782	3521	2749	0007669	1185	14973								
		STD	1000	0684	3518	2760	0006538	1256	14951								
146		OBS	T1012	0674	35175	2761			14949								
		STD	1100	0624	3515	2766	0006012	1319	14944								
		STD	1200	0573	3512	2770	0005626	1377	14940								
146		OBS	1281	0536	35093	2773			14938								
		STD	1300	0528	3509	2773	0005329	1432	14938								
		STD	1400	0489	3506	2776	0005117	1484	14938								
		STD	1500	0456	3503	2777	0004985	1535	14941								
146		OBS	T1563	0438	35011	2778			14944								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	NODC NO.	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.					10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TPT	AMT	

311262	ME	34558N	047599W	113	47	04	16	178	1968	E10	005	4590	17	12				2	X1	6	1	0005
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WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VLS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (%)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

		12	513	179	206	194	7	14	
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MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C C
		STD	0000	1900	3640	2611	0019153	0000	15210								
178		OBS	0000	1900	36397	2611			15210								
		STD	0010	1896	3640	2612	0019062	0019	15211								
		STD	0020	1892	3640	2613	0018971	0038	15211								
178		OBS	0024	1890	36405	2614			15211								
		STD	0030	1870	3640	2619	0018481	0056	15207								
		STD	0050	1812	3640	2633	0017182	0092	15193								
178		OBS	0052	1807	36401	2634			15192								
		STD	0075	1759	3636	2643	0016323	0134	15182								
178		OBS	0079	1754	36357	2644			15181								
		STD	0100	1743	3635	2647	0016081	0174	15181								
178		OBS	0106	1741	36353	2647			15181								
		STD	0125	1744	3640	2650	0015859	0214	15186								
		STD	0150	1748	3643	2651	0015818	0254	15192								
178		OBS	0161	1750	36433	2651			15194								
		STD	0200	1729	3637	2652	0015946	0333	15194								
178		OBS	T0216	1720	36351	2652			15193								
		STD	0250	1702	3632	2654	0015870	0413	15193								
		STD	0300	1668	3627	2658	0015660	0492	15191								
		STD	0400	1577	3612	2668	0014993	0645	15177								
178		OBS	T0444	1527	36038	2673			15168								
		STD	0500	1452	3591	2680	0014089	0790	15152								
178		OBS	0550	1380	35800	2686			15135								
		STD	0600	1304	3569	2694	0012893	0925	15117								
178		OBS	0662	1200	35561	2704			15090								
		STD	0700	1099	3545	2715	0010922	1044	15060								
		STD	0800	0873	3523	2736	0008828	1143	14992								
178		OBS	0884	0728	35103	2748			14948								
		STD	0900	0711	3510	2750	0007385	1224	14944								
		STD	1000	0616	3507	2761	0006314	1293	14923								
		STD	1100	0543	3506	2769	0005554	1352	14910								
178		OBS	T1107	0539	35054	2769			14910								
		STD	1200	0504	3504	2772	0005241	1406	14911								
		STD	1300	0473	3503	2775	0005016	1457	14915								
178		OBS	1386	0453	35022	2777			14921								
		STD	1400	0450	3502	2777	0004871	1507	14922								
		STD	1500	0435	3502	2778	0004794	1555	14932								
178		OBS	T1668	0425	35013	2779			14956								

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REFERENCE CITY CODE	ID. NO.	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE MO DAY HR:1/10	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
						10"	1"	MO	DAY	HR:1/10		CRUISE NO.	STATION NUMBER			DIR	NGT	PER	SEA	TYPE	AMT	

311262		ME	35000N	048000W	113 58 04 18 163	1968	E10	007				4206	15	29	2	2			X1	3	6	0007
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WATER		WIND		BARO- METER (mba)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		16	504	146	211	183	8	14	

		16	504	146	211	183	8	14	
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MESSENGER TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANDWALT-KID	$\Sigma \Delta$ O DYN. M. X 10 ²	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ml/l	TOTAL-P µg - ml/l	NO ₂ -N µg - ml/l	NO ₃ -N µg - ml/l	SiO ₄ -Si µg - ml/l	pH	1 CO
		STD	0000	1849	3635	2620	0018266	0000	15195								
163		OBS	0000	1849	36349	2620			15195								
		STD	0010	1844	3635	2621	0018189	0018	15195								
		STD	0020	1839	3635	2622	0018112	0036	15196								
163		OBS	0024	1837	36347	2623			15196								
		STD	0030	1812	3635	2629	0017482	0054	15189								
		STD	0050	1758	3637	2644	0016172	0088	15177								
163		OBS	0050	1758	36365	2644			15177								
		STD	0075	1759	3637	2644	0016245	0128	15182								
163		OBS	0075	1759	36370	2644			15182								
		STD	0100	1736	3634	2648	0015984	0169	15179								
163		OBS	0100	1736	36344	2648			15179								
		STD	0125	1742	3638	2649	0015947	0209	15185								
163		OBS	0149	1744	36406	2650			15190								
		STD	0150	1744	3641	2650	0015890	0248	15190								
163		OBS	T0199	1734	36393	2652			15195								
		STD	0200	1734	3639	2652	0015942	0328	15195								
		STD	0250	1709	3634	2654	0015892	0408	15195								
		STD	0300	1674	3628	2658	0015686	0486	15192								
163		OBS	T0395	1576	36114	2668			15176								
		STD	0400	1569	3610	2668	0014946	0640	15175								
163		OBS	0492	1434	35891	2682			15144								
		STD	0500	1424	3587	2683	0013785	0783	15142								
163		OBS	T0590	1292	35678	2695			15111								
		STD	0600	1271	3565	2697	0012533	0915	15105								
		STD	0700	1073	3539	2715	0010906	1032	15050								
163		OBS	0784	0925	35238	2728			15008								
		STD	0800	0897	3522	2731	0009284	1133	15000								
		STD	0900	0742	3514	2749	0007557	1217	14957								
163		OBS	T0978	0649	35097	2759			14933								
		STD	1000	0633	3509	2760	0006442	1287	14930								
		STD	1100	0569	3507	2767	0005807	1348	14921								
		STD	1200	0520	3506	2772	0005319	1404	14918								
163		OBS	1225	0510	35055	2773			14918								
		STD	1300	0486	3505	2776	0005009	1456	14920								
		STD	1400	0467	3505	2778	0004864	1505	14929								
163		OBS	T1484	0462	35052	2778			14941								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSSEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLE	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.					10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TYPE	
311262		ME	35007N	047593W	113	57	04	19	178	1968	E10	008	4206	15	19	2	5		X1	8	6	0008
WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS													
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																
				20	508	135	222	211	8	14												
MESSAGE TIME HR 1/10	CAS- T NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	$\frac{\Delta \sigma}{\sigma}$ DYN. AL. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - dl/l	TOTAL-P µg - dl/l	NO ₂ -N µg - dl/l	NO ₃ -N µg - dl/l	SIO ₄ -Si µg - dl/l	pH	S C					
		STD	0000	1941	3629	2592	0020907	0000	15220													
178		OBS	0000	1941	36294	2592			15220													
		STD	0010	1880	3638	2614	0018825	0020	15206													
		STD	0020	1833	3643	2630	0017366	0038	15195													
178		OBS	0022	1825	36440	2633			15193													
		STD	0030	1807	3644	2638	0016702	0055	15189													
178		OBS	0049	1778	36443	2645			15184													
		STD	0050	1778	3644	2645	0016073	0088	15184													
178		OBS	0073	1773	36449	2647			15186													
		STD	0075	1773	3645	2647	0015992	0128	15187													
178		OBS	0097	1768	36460	2649			15189													
		STD	0100	1766	3646	2649	0015841	0168	15189													
		STD	0125	1755	3644	2650	0015815	0207	15190													
178		OBS	0146	1749	36432	2651			15191													
		STD	0150	1749	3643	2651	0015811	0247	15192													
178		OBS	T0198	1749	36441	2652			15200													
		STD	0200	1748	3644	2652	0015902	0326	15200													
		STD	0250	1717	3644	2659	0015358	0404	15199													
		STD	0300	1687	3639	2663	0015177	0481	15197													
178		OBS	T0389	1632	36228	2663			15194													
		STD	0400	1606	3618	2666	0015191	0632	15187													
178		OBS	0486	1441	35913	2682			15146													
		STD	0500	1430	3590	2684	0013693	0777	15145													
178		OBS	T0584	1340	35765	2692			15127													
		STD	0600	1308	3571	2694	0012836	0909	15119													
		STD	0700	1117	3544	2711	0011351	1030	15066													
178		OBS	0773	0988	35298	2722			15030													
		STD	0800	0935	3527	2729	0009561	1135	15015													
		STD	0900	0771	3517	2747	0007788	1222	14969													
178		OBS	T0964	0690	35128	2755			14947													
		STD	1000	0671	3512	2758	0006753	1294	14946													
		STD	1100	0618	3511	2764	0006188	1359	14941													
		STD	1200	0566	3510	2770	0005643	1418	14937													
178		OBS	1214	0559	35102	2771			14936													
		STD	1300	0516	3508	2774	0005234	1473	14933													
		STD	1400	0468	3504	2777	0004973	1524	14930													
178		OBS	T1463	0438	35014	2778			14927													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	TIME MO DAY HR.1/10	MARSEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TYPE		AMT
311262	ME		35022N	048019W	113	58	04	20	134	1968	E10	009	3977	15	12			2	X6	6	2		0009
WATER		WIND		BARO- METER		AIR TEMP. °C		VIS		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. IMT	DIR.	SPEED OR FORCE	(mb)	DRY BULB	WET BULB	WET BULB	CODE	DEPTHS														
		13	S14	115	194	194	6	14															
MISSING TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-°C	Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₃ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C						
		STO	0000	1896	3633	2606	0019548	0000	15208														
134		OBS	0000	1896	36329	2606			15208														
		STO	0010	1879	3634	2612	0019091	0019	15205														
		STD	0020	1857	3635	2618	0018522	0038	15201														
134		OBS	0024	1846	36356	2621			15198														
		STO	0030	1820	3636	2628	0017599	0056	15192														
134		OBS	0047	1768	36379	2642			15180														
		STO	0050	1766	3638	2643	0016250	0090	15180														
		STO	0075	1751	3639	2647	0015913	0130	15180														
134		OBS	0076	1750	36390	2648			15179														
134		OBS	0095	1737	36367	2649			15178														
		STO	0100	1737	3637	2649	0015828	0170	15179														
		STO	0125	1740	3640	2651	0015746	0209	15185														
134		OBS	0142	1741	36405	2651			15188														
		STO	0150	1741	3640	2651	0015834	0249	15189														
134		OBS	T0195	1735	36399	2652			15195														
		STO	0200	1734	3639	2652	0015920	0328	15195														
		STO	0250	1713	3633	2652	0016072	0408	15196														
		STO	0300	1680	3626	2655	0015940	0488	15194														
134		OBS	0385	1597	36154	2666			15181														
		STO	0400	1576	3612	2668	0014956	0643	15177														
134		OBS	0481	1461	35923	2679			15152														
		STO	0500	1436	3589	2682	0013892	0787	15146														
134		OBS	T0583	1318	35718	2693			15119														
		STO	0600	1285	3567	2696	0012666	0920	15110														
		STO	0700	1100	3542	2712	0011182	1039	15060														
134		OBS	0778	0970	35286	2725			15024														
		STO	0800	0932	3527	2730	0009510	1142	15014														
		STO	0900	0782	3521	2749	0007669	1228	14973														
134		OBS	T0980	0686	35166	2759			14949														
		STO	1000	0671	3516	2761	0006489	1299	14946														
		STO	1100	0603	3512	2766	0005926	1361	14935														
		STO	1200	0546	3508	2770	0005535	1419	14928														
134		OBS	1242	0525	35068	2772			14927														
		STO	1300	0500	3506	2774	0005187	1472	14926														
		STO	1400	0466	3503	2776	0004989	1523	14929														
		STO	1500	0443	3501	2777	0004938	1573	14936														
134		OBS	T1506	0442	35011	2777			14936														

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CRUISE NO.	NO.							CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT			
311262	ME	35062N	047525W	113	57	04	21	111	1968	E10	010	3560	16	23		2	X1	4 6	0010	
MARPEN SQUARE		STATION TIME (GMT)		YEAR		ORIGINATOR'S		DEPTH TO BOTTOM		MAX. DEPTH OF SAMPLES		WAVE OBSERVATIONS			WEA- THER CODE		CLOUD CODES		NODC STATION NUMBER	
10°	1°	MO	DAY	HR.	1/10	CRUISE NO.	STATION NUMBER	DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	DIR	HGT	PER	SEA	WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER				
113	57	04	21	111	1968	E10	010	3560	16	23		2	X1	4	6	0010				
WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS								
COLOR CODE	TRANS UNIT	DIR.	SPEED OF FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
		24	512	041	194	178	7	14												
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S °	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S.D.D. DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₂ -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{dl}^{-1}$	SIO ₄ -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S C			
		STD	0000	1896	3642	2613	0018895	0000	15209											
111		OBS	0000	1896	36419	2613			15209											
		STD	0010	1873	3643	2620	0018292	0019	15205											
		STD	0020	1849	3644	2627	0017677	0037	15200											
111		OBS	0026	1834	36444	2631			15196											
		STD	0030	1819	3645	2635	0016922	0054	15193											
		STD	0050	1766	3646	2649	0015669	0086	15181											
111		OBS	0051	1764	36465	2650			15180											
		STD	0075	1759	3647	2651	0015557	0126	15183											
111		OBS	0077	1759	36466	2651			15183											
		STD	0100	1756	3646	2652	0015583	0164	15186											
111		OBS	0102	1756	36464	2652			15186											
		STD	0125	1755	3646	2652	0015641	0203	15190											
		STD	0150	1753	3646	2652	0015699	0243	15193											
111		OBS	0154	1753	36462	2652			15194											
		STD	0200	1752	3646	2653	0015848	0321	15201											
111		OBS	T0206	1751	36461	2653			15202											
		STD	0250	1738	3643	2654	0015914	0401	15205											
		STD	0300	1709	3637	2656	0015841	0480	15204											
		STD	0400	1604	3617	2666	0015219	0636	15186											
111		OBS	T0411	1589	36140	2667			15183											
		STD	0500	1430	3583	2678	0014201	0783	15144											
111		OBS	0517	1404	35792	2681			15138											
		STD	0600	1305	3570	2694	0012849	0918	15118											
111		OBS	T0620	1279	35671	2697			15112											
		STD	0700	1150	3550	2709	0011533	1040	15079											
		STD	0800	0996	3533	2724	0010183	1148	15038											
111		OBS	0832	0949	35287	2728			15026											
		STD	0900	0851	3521	2738	0008783	1243	14999											
		STD	1000	0714	3514	2753	0007287	1324	14963											
111		OBS	T1040	0662	35132	2760			14949											
111		*STD	1307	0531	35118	2775	0005175	1515	14941											
111		*STD	1569	0424	35001	2778	0004826	1646	14939											

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	SHEATH INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			CLOUD CODES	WEATHER CODE	NODC STATION NUMBER	
CTRY CODE	IO NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIA.	HGT	PER	SEA			
311262	ME		34565N	047550W		113	47	04	22	096	1968	E10	011	4572	16	22			2	X0		0011
		WATER COLOR CODE	WIND TRANS (mi)	WIND SPEED OR FORCE	BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS												
						DRY BULB	WET BULB															
				22	515	017	194	172	8	14												
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S °C	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₂ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SiO ₄ -Si $\mu g \cdot dl/l$	PH	1 C					
		STD	0000	1893	3633	2608	0019438	0000	15207													
096		OBS	0000	1893	36334	2608			15207													
		STD	0010	1890	3639	2613	0018990	0019	15209													
		STD	0020	1887	3643	2617	0018658	0038	15210													
096		OBS	0028	1884	36451	2619			15211													
		STD	0030	1872	3645	2622	0018187	0056	15208													
		STD	0050	1781	3645	2645	0016079	0091	15185													
096		OBS	0055	1768	36452	2648			15182													
		STD	0075	1762	3646	2650	0015661	0130	15184													
096		OBS	0083	1761	36466	2651			15185													
		STD	0100	1760	3647	2651	0015650	0170	15187													
096		OBS	0110	1759	36467	2651			15189													
		STD	0125	1758	3646	2651	0015740	0209	15191													
		STD	0150	1755	3646	2652	0015755	0248	15194													
096		OBS	0165	1754	36452	2651			15196													
		STD	0200	1753	3645	2652	0015951	0327	15201													
096		OBS	T0222	1749	36444	2652			15204													
		STD	0250	1730	3644	2656	0015648	0406	15203													
		STD	0300	1695	3641	2662	0015232	0484	15200													
		STD	0400	1626	3625	2667	0015139	0635	15194													
096		OBS	T0438	1600	36157	2665			15191													
		STD	0500	1480	3594	2676	0014467	0784	15161													
096		OBS	0547	1391	35793	2684			15138													
		STD	0600	1288	3565	2694	0012871	0920	15111													
096		OBS	T0655	1191	35527	2703			15086													
		STD	0700	1129	3549	2712	0011211	1041	15071													
		STD	0800	0994	3540	2729	0009638	1145	15038													
096		OBS	0873	0897	35344	2741			15014													
		STD	0900	0855	3532	2746	0008046	1233	15002													
		STD	1000	0718	3523	2759	0006690	1307	14965													
096		OBS	T1091	0620	35168	2768			14941													
		STD	1100	0614	3516	2768	0005793	1369	14940													
		STD	1200	0552	3511	2772	0005400	1425	14931													
		STD	1300	0502	3507	2775	0005112	1478	14927													
096		OBS	1368	0474	35045	2776			14927													
		STD	1400	0463	3504	2777	0004904	1528	14927													
		STD	1500	0436	3502	2778	0004784	1576	14933													
096		OBS	T1645	0418	35006	2779			14950													

REFERENCE CITY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° 1' 10"	LONGITUDE ° 1' 10"	DRIFT E MILES	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS		WEA- THER CODE	CLO- CODE	NODC STATION NUMBER		
						10°	1°	10'	10"		CRUISE NO.	STATION NUMBER			DR	HT	PER	SEA			
311262	ME		33304N	046312W		113	36	04	23	1968	E10	012	3932	15	20		3	X2	4	8	0012
		WATER		WIND		BARO- METER		AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
		COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB												
				19		S16	068	206	183	7	14										
MESSAGE TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S °..	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ ΔD DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 0.1	TOTAL-P μg - 0.1	NO ₃ -N μg - 0.1	NO ₃ -N μg - 0.1	SIGMA-S μg - 0.1	PH	S C				
		STD	0000	2037	3655	2586	0021451	0000	15250												
158		OBS	0000	2037	36552	2586			15250												
		STD	0010	2035	3655	2587	0021447	0021	15251												
		STD	0020	2033	3655	2587	0021436	0043	15252												
158		OBS	0026	2032	36550	2588			15252												
		STD	0030	2008	3653	2592	0020985	0064	15246												
		STD	0050	1915	3648	2613	0019128	0104	15223												
158		OBS	0050	1915	36476	2613			15223												
		STD	0075	1864	3648	2626	0017958	0151	15213												
158		OBS	0076	1862	36478	2626			15213												
		STD	0100	1834	3646	2632	0017461	0195	15209												
158		OBS	0100	1834	36459	2632			15209												
		STD	0125	1819	3646	2636	0017182	0238	15208												
		STD	0150	1807	3646	2639	0016983	0281	15209												
158		OBS	0150	1807	36460	2639			15209												
		STD	0200	1795	3648	2643	0016731	0365	15214												
158		OBS	T0201	1795	36482	2644			15214												
		STD	0250	1782	3647	2646	0016661	0449	15218												
		STD	0300	1755	3644	2650	0016410	0531	15218												
158		OBS	T0394	1662	36281	2660			15204												
		STD	0400	1653	3626	2661	0015676	0692	15202												
158		OBS	0491	1511	36010	2674			15170												
		STD	0500	1499	3599	2675	0014515	0843	15168												
158		OBS	T0590	1358	35774	2689			15134												
		STD	0600	1332	3574	2692	0013104	0981	15127												
		STD	0700	1098	3543	2713	0011072	1102	15059												
158		OBS	0783	0939	35253	2727			15013												
		STD	0800	0912	3524	2731	0009390	1204	15006												
		STD	0900	0773	3516	2746	0007893	1290	14969												
158		OBS	T0978	0688	35126	2756			14949												
		STD	1000	0674	3513	2758	0006776	1364	14947												
		STD	1100	0615	3513	2766	0006005	1428	14940												
		STD	1200	0567	3514	2772	0005409	1485	14938												
158		OBS	1235	0553	35140	2774			14938												
		STD	1300	0530	3514	2777	0004992	1537	14939												
		STD	1400	0503	3513	2780	0004801	1586	14945												
		STD	1500	0486	3511	2780	0004790	1634	14955												
158		OBS	T1500	0486	35114	2780			14955												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDEXT	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE NO.	ID. NO.					10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA	
311262	ME	3334 N	04601 W	113 36	04	24	118	1968	E10	013	4298	15	25			3	X1	8	2	0013	

WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
			27	517	112	194	178	14	

MESSAGE TIME HR. 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S Δ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	SIO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	1 C
		STD	0000	2026	3648	2584	0021713	0000	15246								
118		OBS	0000	2026	36477	2584			15246								
		STD	0010	2021	3648	2585	0021597	0022	15246								
		STD	0020	2016	3649	2587	0021430	0043	15246								
118		OBS	0025	2013	36492	2588			15246								
		STD	0030	1990	3651	2596	0020675	0064	15241								
118		OBS	0049	1916	36526	2616			15224								
		STD	0050	1913	3652	2617	0018760	0104	15223								
118		OBS	0074	1855	36472	2628			15210								
		STD	0075	1854	3647	2628	0017760	0149	15210								
118		OBS	0099	1824													
		STD	0100	1823	3647	2636	0017104	0193	15206								
		STD	0125	1807	3647	2640	0016809	0235	15205								
118		OBS	0148	1794	36472	2643			15205								
		STD	0150	1793	3647	2643	0016563	0277	15205								
118		OBS	T0198	1770	36470	2649			15206								
		STD	0200	1769	3647	2649	0016183	0359	15206								
		STD	0250	1743	3647	2656	0015730	0439	15207								
		STD	0300	1716	3644	2660	0015499	0517	15207								
118		OBS	T0393	1667	36288	2660			15206								
		STD	0400	1654	3626	2661	0015699	0673	15202								
118		OBS	0490	1502	35996	2675			15167								
		STD	0500	1488	3598	2677	0014350	0823	15164								
118		OBS	T0587	1356	35785	2690			15133								
		STD	0600	1329	3574	2692	0013043	0960	15126								
		STD	0700	1128	3545	2709	0011483	1083	15070								
118		OBS	0782	0976	35303	2725			15028								
		STD	0800	0939	3529	2730	0009484	1187	15017								
		STD	0900	0769	3523	2752	0007318	1271	14969								
118		OBS	T0928	0731	35216	2757			14958								
		STD	1000	0701	3522	2761	0006532	1341	14959								
		STD	1100	0660	3522	2766	0006064	1404	14959								
		STD	1200	0619	3522	2772	0005603	1462	14960								
118		OBS	1245	0601	35215	2774			14960								
		STD	1300	0579	3520	2776	0005258	1516	14960								
		STD	1400	0539	3517	2778	0005022	1568	14960								
		STD	1500	0499	3513	2780	0004858	1617	14960								
118		OBS	T1514	0493	35125	2780			14960								

REFERENCE STATION NO.	SHIP CODE	LATITUDE ° ' / 10	LONGITUDE ° ' / 10	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLING	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
					10"	1"	MO	DAY	HR. / 10	CRUISE NO.	DIR			HGT	PER	SEA	TYPE	AMT				
311262	ME	34572N	047576W	113	47	04	30	133	1968	E10	014	4664	15	31				2	X0			0014
				WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
				COLOR CODE		TRANS. 1m	DIR.	SPEED OR FORCE	METER (mba)	DRY BULB	WET BULB											
							01	S07	186	183	161	7	14									
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D OYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{dl}^{-1}$	SIO ₄ -Si $\mu\text{g} \cdot \text{dl}^{-1}$	PH	S CC					
		STD	0000	1857	3641	2622	0018052	0000	15198													
133		OBS	0000	1857	36405	2622			15198													
		STD	0010	1848	3640	2624	0017878	0018	15197													
		STD	0020	1840	3640	2626	0017729	0036	15196													
133		OBS	0024	1837	36403	2627			15196													
		STD	0030	1834	3641	2628	0017570	0053	15197													
133		OBS	0048	1826	36419	2631			15197													
		STD	0050	1826	3642	2631	0017384	0088	15198													
133		OBS	0072	1819	36419	2633			15199													
		STD	0075	1815	3642	2634	0017202	0132	15199													
133		OBS	0096	1790	36423	2640			15195													
		STD	0100	1787	3642	2641	0016596	0174	15195													
		STD	0125	1772	3643	2646	0016257	0215	15194													
133		OBS	0145	1764	36441	2648			15195													
		STD	0150	1763	3644	2648	0016073	0255	15196													
133		OBS	0193	1756	36449	2651			15201													
		STD	0200	1753	3644	2651	0015990	0335	15201													
		STD	0250	1730	3641	2654	0015902	0415	15202													
		STD	0300	1707	3637	2656	0015809	0494	15203													
133		OBS	T0384	1669	36306	2661			15205													
		STD	0400	1641	3625	2663	0015475	0651	15198													
133		OBS	0479	1508	35996	2674			15167													
		STD	0500	1477	3595	2677	0014330	0800	15160													
133		OBS	T0579	1359	35798	2691			15133													
		STD	0600	1325	3575	2694	0012890	0936	15125													
		STD	0700	1167	3553	2708	0011637	1059	15085													
133		OBS	0769	1059	35417	2719			15057													
		STD	0800	1002	3538	2726	0009925	1166	15041													
		STD	0900	0843	3529	2746	0008068	1256	14998													
133		OBS	T0968	0754	35233	2755			14974													
		STD	1000	0726	3522	2758	0006887	1331	14968													
		STD	1130	0647	3517	2765	0006206	1397	14953													
		STD	1200	0577	3513	2771	0005611	1456	14942													
133		OBS	1218	0566	35117	2771			14940													
		STD	1300	0519	3508	2774	0005276	1510	14934													
		STD	1400	0471	3503	2775	0005087	1562	14931													
133		OBS	T1476	0441	34987	2775			14930													

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER	
					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
311262	ME	35083N	047589W	113	57	05	01	181	1968	E10	015		3704	14	20			1	X1	4	6		0015
				WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
				COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB														
						20		518	183	194	183	7	14										
MESSNGR TIME OF HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ ρ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C						
		STD	0000	1843	3643	2628	0017513	0000	15194														
181		OBS	0000	1843	36433	2628			15194														
		STD	0010	1841	3644	2629	0017485	0017	15196														
		STD	0020	1836	3644	2630	0017387	0035	15196														
181		OBS	0022	1834	36437	2630			15196														
		STD	0030	1823	3644	2633	0017112	0052	15194														
181		OBS	0046	1802	36437	2638			15190														
		STD	0050	1796	3644	2640	0016519	0086	15189														
181		OBS	0069	1773	36445	2646			15186														
		STD	0075	1770	3645	2647	0015958	0126	15186														
181		OBS	0092	1764	36446	2649			15187														
		STD	0100	1763	3645	2649	0015844	0166	15188														
		STD	0125	1760	3645	2650	0015859	0206	15191														
181		OBS	0137	1759	36454	2650			15193														
		STD	0150	1759	3645	2650	0015892	0245	15195														
181		OBS	T0183	1758	36454	2651			15200														
		STD	0200	1751	3644	2651	0015982	0325	15201														
		STD	0250	1731	3640	2653	0015985	0405	15203														
		STD	0300	1711	3636	2655	0015987	0485	15204														
181		OBS	T0362	1686	36304	2657			15206														
		STD	0400	1630	3620	2662	0015587	0643	15194														
181		OBS	0453	1556	36066	2669			15179														
		STD	0500	1500	3597	2674	0014682	0794	15168														
181		OBS	T0545	1441	35884	2680			15155														
		STD	0600	1342	3574	2690	0013308	0934	15130														
		STD	0700	1179	3554	2707	0011793	1060	15089														
181		OBS	0724	1143	35501	2710			15080														
		STD	0800	1044	3544	2724	0010240	1170	15057														
		STD	0900	0918	3536	2739	0008814	1265	15026														
181		OBS	0926	0886	35343	2743			15019														
		STD	1000	0782	3526	2752	0007476	1347	14991														
		STD	1100	0667	3517	2762	0006506	1416	14961														
181		OBS	1165	0608	35122	2766			14948														
		STD	1200	0581	3510	2768	0005888	1478	14943														
		STD	1300	0525	3505	2771	0005580	1536	14936														
		STD	1400	0498	3502	2771	0005535	1591	14942														
181		OBS	T1405	0497	35020	2772			14942														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CRUISE CODE	IO. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT	
311262	ME		3509 N	04801 W	113	58	05	02	148	1968	E10	016		2423	05	21			3	X1	3	2		0016
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB												
									25	508	193	206	194	8	08									
MESSNGR TIME OF HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ ρ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C							
		STD	0000	1871	3638	2617	0018549	0000	15202															
148		OBS	0000	1871	36383	2617			15202															
		STD	0010	1861	3641	2622	0018147	0018	15201															
		STD	0020	1849	3643	2626	0017749	0036	15199															
148		OBS	0025	1842	36432	2628			15198															
		STD	0030	1831	3643	2631	0017353	0054	15196															
		STD	0050	1798	3641	2637	0016784	0088	15189															
148		OBS	0050	1798	36410	2637			15189															
		STD	0075	1782	3640	2641	0016566	0130	15189															
148		OBS	0076	1781	36396	2641			15189															
		STD	0100	1750	3640	2649	0015888	0170	15184															
148		OBS	0102	1748																				
		STD	0125	1749	3641	2649	0015897	0210	15187															
		STD	0150	1749	3642	2650	0015948	0250	15192															
		STD	0200	1751	3643	2650	0016064	0330	15200															
148		OBS	T0211	1751	36430	2650			15202															
		STD	0250	1740	3641	2652	0016106	0410	15205															
		STD	0300	1716	3636	2654	0016076	0491	15206															
		STD	0400	1636	3621	2661	0015651	0649	15196															
148		OBS	T0421	1614	36165	2663			15193															
148		*STD	0527	1439	35841	2677	0014389	0840	15151															

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT M	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CITY CODE	IO. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
311262		ME	35023N	047561W		113	57	05	03	181	1968	E10	017	4115	15	12	2	2		X1	3	6	0017	
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB												
									19	510	207	217	206	8	14									

MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (M)	T °C	S °. .	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 01/1	TOTAL-P μg - 01/1	NO ₂ -N μg - 01/1	NO ₃ -N μg - 01/1	SIO ₄ -S μg - 01/1	CH	DO
		STD	0000	1901	3642	2612	0018988	0000	15211								
181		OBS	0000	1901	3642.3	2612			15211								
		STD	0010	1867	3641	2620	0018292	0019	15203								
		STD	0020	1842	3640	2626	0017799	0037	15197								
181		OBS	0024	1834	36398	2627			15195								
		STD	0030	1831	3640	2628	0017593	0054	15195								
		STD	0050	1815	3639	2632	0017303	0089	15194								
181		OBS	0050	1815	36394	2632			15194								
		STD	0075	1786	3642	2641	0016486	0132	15190								
181		OBS	0075	1786	36424	2641			15190								
		STD	0100	1766	3645	2648	0015943	0172	15189								
181		OBS	0100	1766	36446	2648			15189								
		STD	0125	1762	3645	2649	0015906	0212	15192								
		STD	0150	1759	3645	2650	0015900	0252	15195								
181		OBS	0150	1759	36453	2650			15195								
		STD	0200	1756	3645	2651	0016019	0331	15202								
181		OBS	T0203	1756	36451	2651			15203								
		STD	0250	1755	3645	2651	0016168	0412	15210								
		STD	0300	1736	3641	2653	0016181	0493	15212								
181		OBS	T0399	1642	36231	2661			15198								
		STD	0400	1640	3623	2662	0015597	0652	15198								
		STD	0500	1467	3591	2676	0014406	0802	15157								
181		OBS	0503	1462	35898	2676			15155								
		STD	0600	1296	3564	2691	0013104	0939	15114								
181		OBS	T0602	1293	35637	2692			15113								
		STD	0700	1169	3551	2706	0011820	1064	15085								
		STD	0800	1045	3541	2721	0010476	1175	15057								
181		OBS	0806	1038	35402	2722			15055								
		STD	0900	0921	3536	2739	0008865	1272	15028								
		STD	1000	0803	3530	2752	0007523	1354	14999								
181		OBS	T1003	0800	35296	2753			14998								
		STD	1100	0674	3519	2762	0006465	1424	14964								
		STD	1200	0573	3510	2769	0005773	1485	14940								
181		OBS	1262	0526	35062	2771			14930								
		STD	1300	0515	3506	2772	0005392	1541	14932								
		STD	1400	0487	3504	2775	0005213	1594	14937								
		STD	1500	0459	3503	2777	0005029	1645	14942								
181		OBS	T1520	0453	35026	2777			14943								

REFERENCE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT IN/100M	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
311262	ME	34574N	047589W	113	47	05	04	130	1968	E10	018	4298	16	24	0	3		X1	8	3	0018
					WATER		WIND		BARO- METER	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
					COLOR CODE	TRANS. mm	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
								35	S10	234	194	183	8	14							

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D. DTN. M x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	TOTAL-P µg - at/l	NO ₂ -N µg - at/l	NO ₃ -N µg - at/l	SIO ₄ -Si µg - at/l	PH
		STD	0000	1995	3648	2592	0020921	0000	15237							
130		OBS	0000	1995	36478	2592			15237							
		STD	0010	1989	3647	2593	0020865	0021	15237							
		STD	0020	1969	3647	2598	0020401	0042	15233							
130		OBS	0025	1954	36464	2602			15230							
		STD	0030	1922	3646	2610	0019343	0061	15222							
130		OBS	0049	1830	36431	2631			15199							
		STD	0050	1827	3643	2632	0017328	0098	15198							
130		OBS	0074	1786	36402	2640			15190							
		STD	0075	1786	3640	2640	0016646	0141	15190							
130		OBS	0097	1780	36401	2641			15192							
		STD	0100	1779	3641	2642	0016509	0182	15192							
		STD	0125	1771	3643	2646	0016262	0223	15194							
130		OBS	0146	1765	36448	2648			15196							
		STD	0150	1764	3645	2649	0016060	0263	15196							
130		OBS	0196	1752	36437	2651			15200							
		STD	0200	1750	3643	2651	0015997	0343	15200							
		STD	0250	1725	3639	2654	0015903	0423	15201							
		STD	0300	1701	3635	2656	0015803	0503	15201							
130		OBS	0391	1656	36272	2661			15202							
		STD	0400	1636	3623	2663	0015506	0659	15197							
130		OBS	0492	1464	35896	2676			15154							
		STD	0500	1455	3589	2677	0014295	0808	15153							
130		OBS	T0594	1343	35764	2691			15130							
		STD	0600	1333	3575	2692	0013052	0945	15127							
		STD	0700	1167	3554	2709	0011564	1068	15085							
		STD	0800	1017	3539	2725	0010119	1176	15047							
130		OBS	0802	1014	35383	2725			15046							
		STD	0900	0880	3531	2741	0008535	1270	15012							
		STD	1000	0763	3525	2755	0007247	1348	14983							
130		OBS	T1012	0750	35243	2756			14980							
		STD	1100	0665	3519	2764	0006329	1416	14961							
		STD	1200	0585	3514	2770	0005653	1476	14945							
130		OBS	1286	0530	35101	2774			14937							
		STD	1300	0522	3510	2775	0005172	1530	14936							
		STD	1400	0477	3506	2777	0004950	1581	14934							
		STD	1500	0448	3502	2777	0004948	1630	14938							
130		OBS	T1558	0440	35008	2777			14944							

TABLE V.—Observed and interpolated oceanographic data for stations taken by USCGC CASCO at Ocean Station ECHO, 5-27 May 1968, prepared from NODC listing No. 31-1248

REFERENCE		SHIP CODE	LATITUDE ° ' 10	LONGITUDE ° ' 10	DATE MO DAY	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAR. DEPTH OF SAMPLE	WAVE OBSERVATIONS			CLOUD CODES	WEA- THER CODE	NODC STATION NUMBER
CTRY CODE	IO NO.					10"	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		
31	1248	CS	3500 N	04800 W	113 58	05 05	128	1968	E11	001	4572	14	02	2	4			X1	8 3	0001
		WATER COLOR CODE	WIND TRANS DIR	SPEED OR FORCE	BARO- METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
						DRY BULB	WET BULB													
				35	508	288	189	167	7	14										
MESSAGE TIME HR 1-10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-110°	$\Sigma \Delta D$ DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	TOTAL-P µg - at/l	NO ₂ -N µg - at/l	NO ₃ -N µg - at/l	Si O ₄ -Si µg - at/l	pH	S C C			
		STD	0000	1971	3649	2599	0020247	0000	15231											
128	085	0000	1971	36488	2599				15231											
	STD	0010	1937	3647	2607		0019569	0020	15223											
	STD	0020	1904	3645	2614		0018938	0039	15215											
128	085	0023	1894	36449	2616				15213											
	STD	0030	1870	3644	2622		0018219	0058	15207											
128	085	0046	1824	36417	2631				15196											
	STD	0050	1816	3642	2633		0017160	0093	15195											
128	085	0069	1781	36419	2642				15188											
	STD	0075	1771	3642	2645		0016163	0135	15186											
128	085	0092	1751	36424	2650				15183											
	STD	0100	1751	3643	2650		0015708	0175	15184											
	STD	0125	1751	3644	2651		0015721	0214	15188											
128	085	0136	1751	36443	2651				15190											
	STD	0150	1751	3645	2652		0015770	0253	15193											
128	085	T0181	1750	36450	2652				15197											
	STD	0200	1747	3645	2653		0015833	0332	15200											
	STD	0250	1738	3643	2654		0015886	0412	15205											
	STD	0300	1729	3642	2655		0015932	0491	15211											
128	085	T0354	1720	36410	2656				15216											
	STD	0400	1695	3636	2659		0015919	0650	15216											
128	085	0440	1652	36280	2663				15209											
	STD	0500	1535	3606	2673		0014793	0804	15180											
128	085	T0531	1478	35964	2678				15166											
	STD	0600	1374	3581	2689		0013459	0945	15142											
	STD	0700	1216	3561	2705		0011999	1072	15103											
128	085	0713	1195	35590	2707				15097											
	STD	0800	1036	3545	2726		0010022	1183	15054											
128	085	T0891	0890	35330	2741				15014											
	STD	0900	0876	3532	2743		0008395	1275	15010											
	STD	1000	0740	3523	2756		0007031	1352	14974											
	STD	1100	0631	3516	2766		0006042	1417	14947											
128	085	1135	0600	35138	2768				14940											
	STD	1200	0551	3510	2771		0005459	1475	14931											
	STD	1300	0498	3506	2775		0005130	1528	14925											
128	085	T1381	0475	35037	2775				14929											

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REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT NODES	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOCC STATION NUMBER
CIRCUIT CODE	ID. NO.					10"	1"	MO	DAY	HR.		1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA	
311248	C5	3500 N	04800 W	113	58	05	14	130	1968	E11	004	4554	16	21	4	3		X6	4	9	0004	
						WATER		WIND		AIR TEMP. °C												

311248	CS	3500 N	04800 W	113	58	05	14 130	1968	E11	004	4554	16	21	4	3		X6	4	9	0004
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WATER COLOR CODE	WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
	DIR.	SPEED OF FORCE		DRY BULB	WET BULB			

23	S31	125	194	178	7	14		
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MESSNGR TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	CO ₂
		STD	0000	1867	3645	2623	0018003	0000	15201								
130		OBS	0000	1867	36445	2623			15201								
		STD	0010	1869	3645	2622	0018072	0018	15204								
		STD	0020	1871	3645	2622	0018137	0036	15206								
130		OBS	0023	1871	36448	2622			15206								
		STD	0030	1870	3644	2622	0018185	0054	15207								
130		OBS	0047	1867	36434	2622			15209								
		STD	0050	1850	3641	2624	0018025	0091	15204								
130		OBS	0070	1767	36342	2640			15183								
		STD	0075	1759	3635	2642	0016390	0134	15181								
130		OBS	0093	1737	36378	2650			15178								
		STD	0100	1733	3638	2651	0015668	0174	15178								
		STD	0125	1723	3638	2653	0015514	0213	15179								
130		OBS	0138	1719	36379	2654			15180								
		STD	0150	1718	3638	2655	0015490	0251	15182								
130		OBS	T0182	1714	36376	2655			15186								
		STD	0200	1708	3636	2656	0015529	0329	15187								
		STD	0250	1690	3633	2657	0015551	0407	15190								
		STD	0300	1673	3629	2659	0015565	0484	15192								
130		OBS	T0361	1651	36248	2661			15195								
		STD	0400	1587	3613	2666	0015128	0638	15180								
130		OBS	0461	1498	35986	2675			15161								
		STD	0500	1459	3593	2680	0014090	0784	15154								
130		OBS	T0566	1375	35821	2689			15137								
		STD	0600	1291	3570	2697	0012568	0917	15113								
		STD	0700	1072	3541	2716	0010742	1034	15050								
130		OBS	0790	0910	35231	2730			15004								
		STD	0800	0896	3523	2732	0009194	1133	15000								
		STD	0900	0769	3519	2749	0007611	1217	14968								
		STD	1000	0664	3516	2761	0006385	1287	14943								
130		OBS	T1015	0650	35154	2763			14940								
		STD	1100	0589	3512	2768	0005725	1348	14930								
		STD	1200	0530	3509	2773	0005238	1403	14922								
		STD	1300	0485	3506	2776	0004951	1454	14920								
130		OBS	1312	0480	35058	2777			14920								
		STD	1400	0452	3504	2778	0004755	1502	14923								
		STD	1500	0433	3502	2779	0004743	1550	14932								
130		OBS	T1618	0427	35007	2778			14949								

REFERENCE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NOBC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		TYPE	AMT	

311248	CS	3500 N	04800 W	113	58 05 15	129	1968	E11	005	4554	14	31	2	3	X1	8	3	0005
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WATER		WIND		BARO-METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

			29	512	152	183	133	7	14
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MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Delta \rho$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	REMARKS
		STD	0000	1852	3645	2627	0017591	0000	15197								
129		OBS	0000	1852	36452	2627			15197								
		STD	0010	1853	3645	2627	0017638	0018	15199								
		STD	0020	1853	3645	2627	0017676	0035	15201								
129		OBS	0022	1853	36453	2627			15201								
		STD	0030	1852	3645	2627	0017685	0053	15202								
129		OBS	0043	1849	36451	2628			15203								
		STD	0050	1825	3644	2633	0017208	0088	15198								
129		OBS	0064	1789	36438	2642			15189								
		STD	0075	1775	3645	2646	0016039	0129	15187								
129		OBS	0085	1765	36458	2649			15186								
		STD	0100	1763	3646	2650	0015790	0169	15188								
		STD	0125	1759	3646	2650	0015799	0209	15191								
129		OBS	0127	1759	36456	2651			15191								
		STD	0150	1759	3646	2651	0015863	0248	15195								
129		OBS	T0170	1757	36459	2651			15198								
		STD	0200	1744	3643	2652	0015864	0328	15198								
		STD	0250	1722	3639	2654	0015851	0407	15200								
		STD	0300	1700	3634	2656	0015838	0486	15201								
129		OBS	T0344	1680	36300	2658			15202								
		STD	0400	1603	3617	2666	0015196	0641	15186								
129		OBS	0431	1558	36091	2670			15176								
		STD	0500	1450	3588	2678	0014261	0789	15151								
129		OBS	T0521	1416	35822	2681			15143								
		STD	0600	1270	3564	2697	0012586	0923	15105								
		STD	0700	1100	3544	2714	0011036	1041	15060								
129		OBS	0703	1095	35434	2714			15059								
		STD	0800	0943	3527	2728	0009698	1145	15018								
129		OBS	T0888	0824	35169	2739			14987								
		STD	0900	0809	3517	2741	0008422	1235	14983								
		STD	1000	0698	3514	2755	0007021	1312	14956								
		STD	1100	0609	3512	2766	0006020	1378	14938								
129		OBS	1127	0589	35113	2768			14934								
		STD	1200	0543	3509	2772	0005420	1435	14927								
		STD	1300	0500	3506	2774	0005158	1488	14926								
129		OBS	T1372	0483	35041	2775			14931								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSSEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			CLOUD CODES TYPE AMT	NEC- STATION NUMBER	
CRUISE CODE	ID. NO.					10"	1"	MO	DAY (HR. 1, 10)		CRUISE NO.	STATION NUMBER			D9	HGT PER	SEA			
311248	CS		3500 N	04757 W	113	57	05	18	120	1968	E11	007	4846	37	19	2	3	X6	7 9	0007
		WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		VIS		NO. OBS. DEPTH		SPECIAL OBSERVATIONS						
		COLOR CODE	TRANS. (m)	DIR.	SPEED or FORCE			DRY BULB	WET BULB											
						19	520	231	194	189	5	19								
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S °..	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta \sigma$ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg-at/l	TOTAL-P µg-at/l	NO ₂ -N µg-at/l	NO ₃ -N µg-at/l	Si °-Si µg-at/l	pH			
		STD	0000	1830	3638	2627	0017565	0000	15190											
120		OBS	0000	1830	36383	2627			15190											
		STD	0010	1830	3638	2627	0017590	0018	15192											
		STD	0020	1829	3638	2628	0017616	0035	15193											
120		OBS	0026	1829	36383	2628			15194											
		STD	0030	1828	3638	2628	0017644	0053	15194											
		STD	0050	1809	3636	2631	0017408	0088	15192											
120		OBS	0052	1806	36357	2631			15191											
		STD	0075	1746	3633	2644	0016203	0130	15177											
120		OBS	0079	1740	36330	2646			15176											
		STD	0100	1731	3634	2648	0015897	0170	15177											
120		OBS	0106	1729	36347	2649			15178											
		STD	0125	1729	3637	2651	0015727	0210	15181											
		STD	0150	1730	3639	2653	0015676	0249	15186											
120		OBS	0160	1730	36394	2653			15187											
		STD	0200	1720	3637	2653	0015762	0327	15191											
		STD	0250	1696	3632	2655	0015737	0406	15191											
120		OBS	T0295	1665	36269	2659			15189											
		STD	0300	1660	3626	2659	0015512	0484	15188											
		STD	0400	1551	3607	2670	0014766	0636	15169											
120		OBS	T0431	1514	36018	2674			15161											
		STD	0500	1426	3591	2685	0013537	0777	15143											
120		OBS	0542	1367	35828	2691			15130											
		STD	0600	1273	3568	2699	0012355	0907	15107											
120		OBS	T0656	1182	35555	2707			15083											
		STD	0700	1094	3547	2717	0010707	1022	15059											
		STD	0800	0919	3531	2735	0008997	1120	15010											
120		OBS	0893	0786	35201	2747			14974											
		STD	0900	0779	3520	2748	0007695	1204	14972											
		STD	1000	0682	3516	2759	0006654	1276	14950											
		STD	1100	0601	3513	2767	0005824	1338	14935											
120		OBS	T1136	0576	35115	2770			14930											
		STD	1200	0544	3509	2772	0005434	1394	14928											
		STD	1300	0500	3505	2774	0005231	1448	14926											
		STD	1400	0463	3503	2776	0004978	1499	14927											
120		OBS	1450	0448	35016	2777			14929											
		STD	1500	0438	3501	2778	0004870	1548	14934											
		STD	1750	0398	3499	2780	0004710	1668	14959											
120		OBS	T1767	0396	34990	2780			14961											
		STD	2000	0374	3498	2782	0004670	1785	14991											
144		OBS	T2206	0357	34976	2783			15019											
		STD	2500	0337	3497	2785	0004597	2017	15061											
144		OBS	2833	0313	34963	2787			15108											
		STD	3000	0299	3495	2787	0004505	2244	15130											
144		OBS	T3437	0265	34926	2788			15192											
144		OBS	T3681	0248	34914	2788			15227											
144		OBS	T3746	0245	34915	2789			15237											

REFERENCE		SHIP CODE	LATITUDE ° 1' 10"	LONGITUDE ° 1' 10"	INCH	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER			
CTRY CODE	ID. NO.					MO	DAY	HR	1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT				
311248	CS		3500 N	04753 W	113	57	05	19	126	1968	E11	008	4810	14	26	1	3		X1	3	6		0008		
						WATER		WIND				AIR TEMP. °C													
						COLOR CODE		TRANS. (m)		DIR.		SPEED OR FORCE		BARO- METER (mba)		DRY BULB		WET BULB		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS	
								24		S12		196		217		206		7		14					
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10 ³	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SIO ₄ -Si μg - dl/l	PH									
		STD	0000	1829	3637	2626	0017664	0000	15190																
126	OBS	0000	1829	36366	2626				15190																
	STD	0010	1829	3637	2627	0017670	0018		15191																
	STD	0020	1825	3637	2628	0017610	0035		15192																
126	OBS	0023	1823	36372	2628				15192																
	STD	0030	1812	3638	2632	0017264	0053		15190																
126	OBS	0047	1795	36383	2636				15188																
	STD	0050	1795	3638	2636	0016900	0087		15188																
126	OBS	0070	1792	36382	2637				15191																
	STD	0075	1778	3638	2640	0016617	0129		15187																
126	OBS	0094	1740	36378	2649				15179																
	STD	0100	1741	3639	2650	0015761	0169		15181																
	STD	0125	1744	3644	2653	0015558	0208		15186																
126	OBS	0141	1746	36446	2653				15190																
	STD	0150	1741	3643	2653	0015646	0247		15189																
126	OBS	T0188	1719	36379	2654				15189																
	STD	0200	1717	3637	2654	0015693	0326		15190																
	STD	0250	1699	3634	2656	0015661	0404		15192																
	STD	0300	1666	3628	2659	0015504	0482		15190																
126	OBS	T0378	1582	36138	2668				15175																
	STD	0400	1543	3607	2672	0014591	0633		15166																
126	OBS	0473	1428	35894	2684				15139																
	STD	0500	1398	3586	2687	0013314	0772		15134																
126	OBS	T0565	1315	35745	2696				15116																
	STD	0600	1257	3564	2699	0012329	0900		15101																
	STD	0700	1090	3538	2711	0011289	1018		15056																
126	OBS	0759	0991	35272	2720				15029																
	STD	0800	0907	3523	2731	0009379	1122		15004																
	STD	0900	0738	3515	2750	0007422	1206		14956																
126	OBS	T0947	0676	35123	2757				14939																
	STD	1000	0640	3512	2762	0006324	1274		14933																
	STD	1100	0581	3510	2768	0005757	1335		14926																
126	OBS	1197	0532	35085	2773				14922																
	STD	1200	0531	3508	2772	0005325	1390		14922																
	STD	1300	0490	3506	2776	0005020	1442		14922																
	STD	1400	0459	3504	2778	0004850	1491		14926																
126	OBS	T1442	0449	35026	2778				14929																

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCH	MARDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOCC STATION NUMBER	
CTRY CODE	IO. NO.					10"	1'	MO	DAY	HR.1/10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT		
311248	CS		3500 N	04800 W	113	58	05	22	120	1968	E11	009	4755	42	25	2	3		X6	7	9	0009
WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS													
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB																
				25	S20	180	200	194	6	19												
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-2107	S Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₃ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C					
		STD	0000	1874	3638	2616	0018673	0000	15203													
120		OBS	0000	1874	36376	2616			15203													
		STD	0010	1872	3638	2616	0018633	0019	15204													
		STD	0020	1870	3639	2618	0018550	0037	15205													
120		OBS	0026	1869	36393	2618			15206													
		STD	0030	1853	3639	2622	0018142	0056	15202													
		STD	0050	1794	3640	2637	0016777	0091	15188													
120		OBS	0051	1792	36398	2638			15188													
		STD	0075	1771	3643	2646	0016076	0132	15186													
120		OBS	0078	1768	36436	2647			15186													
		STD	0100	1741	3640	2651	0015693	0171	15181													
120		OBS	0103	1738	36394	2651			15180													
		STD	0125	1737	3641	2652	0015649	0210	15184													
		STD	0150	1733	3642	2654	0015554	0249	15187													
120		OBS	0154	1732	36419	2654			15187													
		STD	0200	1713	3638	2656	0015528	0327	15189													
120		OBS	T0206	1710	36370	2656			15189													
		STD	0250	1649	3624	2660	0015244	0404	15176													
		STD	0300	1584	3612	2666	0014820	0479	15163													
		STD	0400	1465	3593	2678	0013924	0623	15140													
120		OBS	T0408	1456	35918	2679			15138													
		STD	0500	1362	3583	2693	0012789	0757	15122													
120		OBS	0509	1353	35814	2693			15120													
		STD	0600	1256	3567	2702	0012091	0881	15101													
120		OBS	T0610	1243	35658	2703			15098													
		STD	0700	1035	3547	2728	0009638	0990	15038													
		STD	0800	0864	3532	2745	0008006	1078	14989													
120		OBS	0816	0842	35305	2747			14983													
		STD	0900	0789	3526	2751	0007414	1155	14977													
		STD	1000	0721	3520	2757	0006956	1227	14966													
120		OBS	T1023	0705	35193	2758			14964													
		STD	1100	0630	3515	2765	0006100	1292	14946													
		STD	1200	0549	3511	2772	0005358	1349	14930													
120		OBS	1290	0493	35073	2776			14922													
		STD	1300	0490	3507	2776	0004947	1401	14922													
		STD	1400	0459	3504	2778	0004850	1450	14926													
		STD	1500	0431	3501	2778	0004789	1498	14931													
120		OBS	T1561	0416	34997	2779			14935													
		STD	1750	0402	3500	2780	0004721	1617	14961													
		STD	2000	0382	3500	2782	0004659	1734	14995													
143		OBS	T2420	0346	34996	2786			15051													
		STD	2500	0338	3499	2786	0004468	1962	15061													
		STD	3000	0292	3496	2788	0004327	2182	15128													
143		OBS	3070	0286	34956	2788			15137													
143		OBS	3715	0240	34918	2789			15230													
		STD	4000	0229	3491	2790	0004186	2608	15275													
143		OBS	T4031	0228	34911	2790			15280													
143		OBS	T4193	0226	34904	2790			15308													

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT MOUSE	MARDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.					10"	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE	
311	248	CS	3502 N	04811 W	113 58	05 23	186	1968	E11	010		4297	16	20	1	3		X1	4 5		0010

311248		CS	3502 N	04811 W		113	58	05	23	186	1968	E11 010	4297	16	20	1	3		X1	4	5	0010
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WATER		WIND		BARO- METER (mba)	AIR TEMP °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		16	512	200	211	189	7	14	

			16	S12	200	211	189	7	14
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MESSENGER TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S
		STD	0000	1871	3639	2617	0018520	0000	15202								
186		OBS	0000	1871	36387	2617			15202								
		STD	0010	1863	3639	2620	0018341	0018	15201								
		STD	0020	1850	3639	2623	0018042	0037	15199								
186		OBS	0025	1843	36394	2625			15198								
		STD	0030	1830	3638	2627	0017692	0054	15195								
186		OBS	0049	1794	36350	2634			15187								
		STD	0050	1794	3635	2634	0017125	0089	15188								
186		OBS	0074	1780	36362	2638			15188								
		STD	0075	1777	3636	2639	0016739	0132	15187								
186		OBS	0098	1730	36342	2649			15177								
		STD	0100	1729	3634	2649	0015829	0172	15177								
		STD	0125	1722	3635	2652	0015686	0212	15179								
186		OBS	0146	1715	36359	2654			15180								
		STD	0150	1714	3636	2654	0015550	0251	15181								
186		OBS	T0195	1696	36331	2656			15182								
		STD	0200	1696	3633	2656	0015499	0328	15183								
		STD	0250	1679	3630	2658	0015492	0406	15186								
		STD	0300	1639	3624	2663	0015180	0483	15181								
186		OBS	T0389	1513	36016	2674			15154								
		STD	0400	1478	3595	2677	0014056	0629	15144								
186		OBS	0490	1283	35610	2692			15091								
		STD	0500	1281	3563	2694	0012611	0762	15092								
186		OBS	T0594	1261	35685	2702			15102								
		STD	0600	1248	3567	2703	0011934	0885	15098								
		STD	0700	1047	3539	2719	0010436	0997	15041								
		STD	0800	0885	3521	2733	0009157	1095	14996								
186		OBS	0810	0871	35198	2734			14992								
		STD	0900	0773	3518	2748	0007747	1179	14969								
		STD	1000	0682	3516	2759	0006654	1251	14950								
186		OBS	T1026	0661	35157	2762			14946								
		STD	1100	0623	3514	2765	0006071	1315	14943								
		STD	1200	0571	3512	2770	0005627	1373	14939								
		STD	1300	0519	3509	2775	0005196	1427	14934								
186		OBS	1301	0518	35090	2775			14934								
		STD	1400	0478	3506	2777	0004964	1478	14934								
		STD	1500	0444	3503	2778	0004820	1527	14936								
186		OBS	T1577	0422	35004	2779			14940								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	TIME ZONE	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'WPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	ID. NO.						10"	1"	MO DAY HR, 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	Amt	
311248		CS	3501 N	04809 W	113	58	05	24 190	1968	E11	011	3804	15	29	1	3		X1	8	3		0011
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS								
		COLOR CODE	TRANS. PCT	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB									
					32	510	240	194	156	7	14											
MESSINGR TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S Δ D DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	Si O ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S C					
		STD	0000	1869	3638	2618	0018494	0000	15201													
190		OBS	0000	1869	36384	2618			15201													
		STD	0010	1854	3638	2621	0018233	0018	15199													
		STD	0020	1842	3637	2623	0018046	0037	15197													
190		OBS	0025	1836	36361	2624			15196													
		STD	0030	1834	3636	2624	0017940	0054	15196													
		STD	0050	1817	3635	2628	0017663	0090	15194													
190		OBS	0051	1816	36350	2628			15194													
		STD	0075	1778	3635	2638	0016835	0133	15187													
190		OBS	0076	1776	36347	2638			15187													
		STD	0100	1734	3634	2648	0015952	0174	15178													
190		OBS	0101	1733	36342	2648			15178													
		STD	0125	1722	3635	2651	0015701	0214	15179													
		STD	0150	1712	3635	2654	0015554	0253	15180													
190		OBS	0153	1711	36354	2654			15180													
		STD	0200	1695	3633	2657	0015454	0330	15183													
190		OBS	T0203	1694	36332	2657			15183													
		STD	0250	1674	3630	2659	0015378	0407	15184													
		STD	0300	1637	3623	2662	0015207	0484	15181													
		STD	0400	1509	3601	2675	0014286	0631	15155													
190		OBS	T0407	1497	35993	2676			15152													
		STD	0500	1301	3565	2691	0012864	0767	15099													
190		OBS	0509	1289	35631	2692			15096													
		STD	0600	1252	3567	2702	0012034	0892	15099													
190		OBS	T0611	1242	35671	2705			15098													
		STD	0700	1066	3543	2719	0010487	1004	15048													
		STD	0800	0893	3523	2733	0009144	1102	14999													
190		OBS	0816	0868	35206	2735			14992													
		STD	0900	0742	3512	2747	0007703	1187	14957													
		STD	1000	0627	3506	2759	0006575	1258	14927													
190		OBS	T1021	0608	35052	2760			14923													
		STD	1100	0573	3507	2766	0005863	1320	14923													
		STD	1200	0533	3508	2772	0005353	1376	14923													
190		OBS	1275	0505	35083	2776			14924													
		STD	1300	0496	3508	2776	0004956	1428	14925													
		STD	1400	0464	3506	2779	0004772	1476	14928													
		STD	1500	0435	3503	2779	0004697	1524	14933													
190		OBS	T1528	0428	35019	2779			14934													

REFERENCE	SHIP CODE	LATITUDE E	LONGITUDE W	MARS SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
					10'	1'	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIP	HGT	PER		SEA	TYPE		AMT
311248	CS	3459 N	04759 W	113	47	05	25	133	1968	E11	012	4390	37	17	1	3		X1	0	4		0012
WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS													
COLOR CODE	TRANS (m)	DIR.	SPEED (K F.P.E)		DRY BULB	WET BULB																
			18		520	217					211	189	7	19								
MISSION TIME HR. 1-10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. ML. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot ml^{-1}$	TOTAL-P $\mu g \cdot ml^{-1}$	NO ₂ -N $\mu g \cdot ml^{-1}$	NO ₃ -N $\mu g \cdot ml^{-1}$	SiO ₄ -Si $\mu g \cdot ml^{-1}$	pH						
		STD	0000	1838	3641	2628	0017538	0000	15193													
133	OBS	0000	1838	36413	2628				15193													
	STD	0010	1837	3641	2628	0017547	0018		15194													
	STD	0020	1835	3641	2628	0017566	0035		15195													
133	OBS	0022	1835	36410	2628				15195													
	STD	0030	1830	3641	2629	0017475	0053		15195													
133	OBS	0046	1807	36410	2635				15191													
	STD	0050	1784	3639	2639	0016599	0087		15185													
133	OBS	0068	1738	36383	2650				15175													
	STD	0075	1745	3641	2650	0015628	0127		15178													
133	OBS	0089	1754	36455	2652				15184													
	STD	0100	1752	3645	2652	0015557	0166		15185													
	STD	0125	1746	3645	2653	0015510	0205		15187													
133	OBS	0125	1746	36453	2653				15187													
	STD	0150	1734	3642	2654	0015556	0244		15187													
133	OBS	T0177	1719	36380	2654				15187													
	STD	0200	1717	3637	2654	0015693	0322		15190													
	STD	0250	1699	3633	2655	0015734	0400		15192													
	STD	0300	1660	3627	2660	0015439	0478		15188													
133	OBS	T0357	1593	36155	2667				15176													
	STD	0400	1510	3602	2675	0014235	0627		15155													
133	OBS	0445	1439	35912	2683				15139													
	STD	0500	1390	3584	2687	0013293	0764		15131													
133	OBS	T0539	1346	35784	2692				15122													
	STD	0600	1236	3565	2704	0011845	0890		15094													
	STD	0700	1069	3547	2722	0010250	1000		15050													
133	OBS	0737	1011	35418	2728				15034													
	STD	0800	0913	3535	2739	0008603	1095		15008													
	STD	0900	0780	3525	2752	0007345	1174		14973													
133	OBS	T0948	0726	35218	2757				14960													
	STD	1000	0682	3520	2762	0006361	1243		14951													
	STD	1100	0608	3516	2769	0005706	1303		14938													
	STD	1200	0545	3512	2774	0005228	1358		14929													
133	OBS	1213	0538	35112	2774				14928													
	STD	1300	0498	3508	2776	0004984	1409		14926													
	STD	1400	0460	3504	2777	0004863	1458		14926													
133	OBS	T1461	0440	35028	2779				14928													
	STD	1500	0437	3503	2779	0004739	1506		14933													
	STD	1750	0419	3503	2781	0004753	1625		14968													
	STD	2000	0398	3502	2783	0004712	1743		15002													
154	OBS	T2029	0395	35021	2783				15005													
	STD	2500	0347	3500	2786	0004528	1974		15065													
154	OBS	2614	0334	34990	2787				15079													
	STD	3000	0284	3495	2788	0004277	2194		15124													
154	OBS	T3200	0264	34935	2789				15150													
154	OBS	T3568	0237	34921	2790				15203													
154	OBS	T3664	0233	34912	2790				15218													

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CITY CODE	ID. NO.					10'	1'	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
311248		C5	3500 N	04800 W	113	58	05	27	121	1968	E11	013	4297	39	23	1	3		X1	7	7	0013
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
		COLOR CODE	TRANS. IMI	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB		DEPTHS											
					23	515	173	211	183	7	20											
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	SC					
		STD	0000	1854	3642	2624	0017871	0000	15197													
121		085	0000	1854	36420	2624			15197													
		STD	0010	1854	3642	2624	0017906	0018	15199													
		STD	0020	1852	3642	2625	0017894	0036	15200													
121		085	0027	1850	36419	2625			15201													
		STD	0030	1848	3642	2625	0017845	0054	15201													
		STD	0050	1836	3642	2628	0017638	0089	15200													
121		085	0055	1833	36416	2629			15200													
		STD	0075	1747	3637	2647	0015965	0131	15178													
121		085	0082	1731	36368	2651			15175													
		STD	0100	1735	3640	2652	0015554	0171	15179													
121		085	0110	1736	36415	2653			15181													
		STD	0125	1731	3641	2654	0015474	0209	15182													
		STD	0150	1724	3639	2654	0015541	0248	15184													
121		085	0164	1721	36389	2655			15185													
		STD	0200	1717	3638	2655	0015591	0326	15190													
121		085	T0218	1712	36381	2656			15191													
		STD	0250	1696	3634	2657	0015592	0404	15191													
		STD	0300	1658	3627	2661	0015394	0481	15187													
		STD	0400	1540	3606	2672	0014598	0631	15165													
121		085	T0441	1474	35952	2678			15150													
		STD	0500	1340	3573	2689	0013067	0770	15113													
121		085	0551	1249	35600	2698			15089													
		STD	0600	1198	3556	2705	0011764	0894	15079													
121		085	T0662	1128	35513	2714			15065													
		STD	0700	1071	3547	2721	0010287	1004	15050													
		STD	0800	0932	3536	2737	0008853	1100	15015													
121		085	0897	0813	35280	2749			14986													
		STD	0900	0809	3528	2750	0007588	1182	14985													
		STD	1000	0701	3522	2761	0006503	1252	14959													
		STD	1100	0611	3516	2769	0005749	1314	14939													
121		085	T1137	0583	35143	2771			14934													
		STD	1200	0547	3511	2773	0005329	1369	14929													
		STD	1300	0498	3507	2775	0005057	1421	14926													
		STD	1400	0459	3504	2778	0004850	1471	14926													
121		085	1442	0446	35033	2778			14927													
		STD	1500	0438	3501	2777	0004888	1519	14934													
		STD	1750	0405	3500	2780	0004742	1640	14962													
121		085	T1751	0405	34999	2780			14962													
166		085	T1769	0406	35002	2780			14966													
		STD	2000	0380	3500	2783	0004609	1756	14994													
166		085	2294	0352	34993	2785			15032													
		STD	2500	0340	3498	2785	0004569	1986	15062													
166		085	2826	0314	34967	2787			15107													
		STD	3000	0290	3495	2788	0004368	2209	15127													
166		085	T3370	0252	34927	2789			15174													
166		085	T3779	0229	34913	2790			15236													
166		085	T3878	0228	34908	2790			15253													

TABLE VI.—Observed and interpolated oceanographic data for stations taken by USCGC SEBAGO at Ocean Station ECHO, 28 May–19 June 1968, prepared from NODC listing No. 31–1273

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARCH INDX	MARSON SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CITY CODE	IO. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE	
311273		55	3504 N	04804 W		113	58	05	28	189	1968	E12	001	3840	16	34			2	X1	6 6	0001
						WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS MM	DIR.	SPEED OR FORCE			DRY BULB	WET BULB	VIS CODE								
										32	507	186	207	169	7	14						
MESSNGR TIME OF HR 1/10	CST NO.	CARO TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma_t$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SIO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	SC					
		STD	0000	1851	3644	2626	0017654	0000	15197													
189		OBS	0000	1851	36440	2626			15197													
		STD	0010	1851	3644	2626	0017679	0018	15198													
		STD	0020	1850	3644	2627	0017705	0035	15200													
189		OBS	0025	1850	36440	2627			15201													
		STD	0030	1849	3644	2627	0017712	0053	15201													
189		OBS	0049	1828	36433	2632			15198													
		STD	0050	1825	3643	2632	0017280	0088	15197													
189		OBS	0073	1762	36363	2643			15182													
		STD	0075	1758	3636	2643	0016294	0130	15181													
189		OBS	0097	1727	36344	2650			15176													
		STD	0100	1730	3636	2650	0015729	0170	15177													
		STD	0125	1747	3642	2651	0015773	0209	15187													
189		OBS	0146	1751	36449	2652			15192													
		STD	0150	1749	3644	2652	0015760	0249	15192													
189		OBS	T0195	1724	36388	2654			15191													
		STD	0200	1724	3638	2653	0015775	0328	15192													
		STD	0250	1713	3631	2650	0016209	0408	15196													
		STD	0300	1679	3624	2653	0016105	0488	15193													
189		OBS	0386	1569	36115	2669			15172													
		STD	0400	1533	3604	2672	0014590	0642	15163													
189		OBS	0484	1364	35725	2684			15118													
		STD	0500	1348	3572	2687	0013302	0781	15116													
189		OBS	T0583	1261	35678	2701			15100													
		STD	0600	1242	3565	2703	0011962	0908	15096													
		STD	0700	1120	3547	2712	0011188	1023	15068													
189		OBS	0793	0991	35334	2725			15035													
		STD	0800	0981	3532	2725	0009992	1129	15033													
		STD	0900	0824	3521	2742	0008342	1221	14989													
		STD	1000	0651	3512	2760	0006486	1295	14938													
189		OBS	T1008	0636	35110	2761			14933													
189		*STD	12790	0508	35062	2774	0005230	1459	14933													
189		*STD	15520	0440	35013	2777	0004941	1597	14933													

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CITY CODE	ID. NO.					MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT
311273	S5		3557 N	04754 W	113	57	05	29	124	1968	E12	002	4755	14	06		2	X1	8 2	0002	
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB										
									11	509	268	181	140	8	14						
MESSNGR TIME HR. 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°	Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C				
		STD	0000	1846	3636	2621	0018136	0000	15194												
124		OBS	0000	1846	36357	2621			15194												
		STD	0010	1846	3636	2621	0018155	0018	15196												
		STD	0020	1845	3636	2622	0018173	0036	15197												
124		OBS	0025	1845	36359	2622			15198												
		STD	0030	1845	3637	2623	0018124	0054	15199												
124		OBS	0048	1843	36402	2625			15202												
		STD	0050	1842	3641	2626	0017842	0090	15202												
124		OBS	0072	1836	36433	2630			15204												
		STD	0075	1829	3643	2631	0017464	0135	15203												
124		OBS	0096	1784	36404	2640			15193												
		STD	0100	1775	3639	2642	0016560	0177	15191												
		STD	0125	1725	3633	2649	0015915	0218	15179												
124		OBS	0142	1700	36307	2653			15175												
		STD	0150	1696	3630	2654	0015550	0257	15175												
124		OBS	T0190	1671	36278	2658			15173												
		STD	0200	1665	3627	2659	0015226	0334	15173												
		STD	0250	1630	3621	2663	0015034	0410	15170												
		STD	0300	1585	3614	2668	0014697	0484	15164												
124		OBS	T0368	1506	36011	2676			15149												
		STD	0400	1453	3593	2681	0013670	0626	15136												
124		OBS	0463	1363	35792	2689			15115												
		STD	0500	1328	3575	2693	0012679	0758	15109												
124		OBS	T0553	1270	35682	2700			15098												
		STD	0600	1194	3557	2706	0011615	0879	15078												
		STD	0700	1045	3541	2721	0010254	0988	15040												
124		OBS	0733	0999	35367	2726			15029												
		STD	0800	0912	3535	2739	0008587	1083	15008												
		STD	0900	0795	3531	2754	0007144	1161	14980												
124		OBS	T0908	0786	35308	2756			14977												
		STD	1000	0690	3522	2763	0006336	1229	14954												
		STD	1100	0604	3514	2768	0005794	1289	14936												
124		OBS	1166	0559	35099	2770			14928												
		STD	1200	0539	3509	2772	0005356	1345	14926												
		STD	1300	0494	3507	2776	0005024	1397	14924												
		STD	1400	0468	3504	2777	0004951	1447	14930												
124		OBS	T1437	0464	35034	2776			14934												

REFERENCE CITY CODE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER		
					10"	1"	MO DAY HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER				SEA	
					COLOR CODE	TRANS. (m)	DIR.		SPEED OR FORCE	BARO- METER (mb)			AIR TEMP. °C DRY BULB WET BULB		VIS CODE				NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
311273	S5	3645 N	04909 W	113	69	05	31 126	1968	E12	003	5303	01	08			1	X1	6 6	0003	
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB WET BULB										
								13	515	301	174	146	7	06						
MESSNGR TIME HR. 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°		Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C		
		STD	0000	1828	3641	2630	0017292		0000	15190										
126		OBS	0000	1828	36414	2630				15190										
		STD	0010	1828	3641	2630	0017356		0017	15192										
		STD	0020	1827	3641	2630	0017368		0035	15193										
126		OBS	0024	1826	36406	2630				15193										
		STD	0030	1824	3640	2630	0017394		0052	15193										
126		OBS	0049	1816	36396	2632				15194										
		STD	0050	1814	3640	2633	0017236		0087	15194										
126		OBS	0073	1765	36404	2645				15184										
		STD	0075	1761	3640	2646	0016045		0128	15183										
126		OBS	0097	1723	36400	2655				15175										
		STD	0100	1719	3640	2656	0015184		0167	15174										
		STD	0125	1697	3638	2660	0014908		0205	15172										
126		OBS	0145	1693	36350	2658				15173										

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS INDIC	MARS SQUARE	STATION TIME GMT			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
						MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	
311273	55	3640 N	04913 W	113	69	06	01	133	1968	E12	004	4958	14	14			1	X2	4	8	0004

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB			
		18	512	217	207	191	6	13	

MESSAGE TIME 0 HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Delta \rho$ O OYN. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - \mu l/l$	TOTAL-P $\mu g - \mu l/l$	NO ₂ -N $\mu g - \mu l/l$	NO ₃ -N $\mu g - \mu l/l$	SiO ₄ -Si $\mu g - \mu l/l$	pH	SC
		STD	0000	1838	3641	2627	0017574	0000	15193								
		OBS	0000	1838	36408	2627			15193								
		STD	0010	1837	3641	2628	0017576	0018	15194								
		STD	0020	1835	3641	2628	0017585	0035	15195								
		OBS	0021	1835	36407	2628			15195								
		STD	0030	1831	3640	2628	0017571	0053	15196								
		OBS	0048	1818	36398	2631			15195								
		STD	0050	1814	3640	2632	0017251	0088	15194								
		STD	0075	1770	3640	2644	0016255	0129	15185								
		OBS	0095	1745	36409	2650			15181								
		STD	0100	1742	3641	2651	0015651	0169	15181								
		STD	0125	1728	3641	2654	0015412	0208	15181								
		OBS	0142	1719	36409	2657			15181								
		STD	0150	1716	3640	2657	0015284	0247	15182								
		OBS	T0186	1697	36374	2659			15182								
		STD	0200	1681	3634	2660	0015082	0322	15179								
		STD	0250	1623	3623	2666	0014731	0397	15168								
		STD	0300	1560	3612	2672	0014292	0470	15156								
		OBS	T0361	1480	35999	2680			15139								
		STD	0400	1427	3593	2687	0013123	0607	15128								
		OBS	0451	1352	35842	2696			15110								
		STD	0500	1274	3575	2704	0011602	0730	15091								
		OBS	T0534	1215	35683	2711			15076								
		STD	0600	1070	3551	2725	0009748	0837	15034								
		OBS	0695	0885	35331	2742			14980								
		STD	0700	0875	3533	2744	0007922	0925	14977								
		STD	0800	0705	3527	2764	0005879	0994	14928								
		OBS	T0869	0622	35234	2773			14906								
		STD	0900	0615	3523	2774	0005014	1049	14908								
		STD	1000	0587	3520	2775	0004975	1099	14913								
		STD	1100	0555	3516	2776	0004950	1148	14917								
		OBS	1114	0550	35155	2776			14917								
		STD	1200	0518	3511	2776	0004925	1198	14918								
		STD	1300	0475	3505	2777	0004888	1247	14916								
		OBS	T1377	0439	35001	2777			14913								

REFERENCE	SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DATE AND CH	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE DEPTH OF SAMPLES	WAVE OBSERVATIONS			WAVE THER CODE	TIME * 1/1	NODE STATION NUMBER	
					10"	1"	MO	OAT		CRUISE NO.	STATION NUMBER			DIR	HUTTER	SEA				
311273	S5	3641 N	04914 W	113	69	06	02	132	1968	E12	005	5121	13	14			2	X6	5 8	0005
					WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS DEPTHS		SPECIAL OBSERVATIONS					
					COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB		WET BULB		VIS. CODE							
								19	518	173	196	191	5	14						
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S °C	SIGMA-T	SPECIFIC VOLUME ANDALTY-310	S. Δ D DYN. M x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml	TOTAL-P μg - ml	NO ₂ -N μg - ml	NO ₃ -N μg - ml	SIO ₄ -Si μg - ml	pH	S °C			
		STD	0000	1848	3641	2625	0017821	0000	15196											
132		OBS	0000	1848	36407	2625			15196											
		STD	0010	1846	3641	2625	0017780	0018	15197											
		STD	0020	1843	3642	2626	0017714	0036	15197											
132		OBS	0025	1840	36417	2627			15197											
		STD	0030	1838	3642	2628	0017593	0053	15198											
132		OBS	0047	1823	36422	2632			15196											
		STD	0050	1817	3642	2634	0017141	0088	15195											
132		OBS	0071	1779	36430	2644			15188											
		STD	0075	1773	3643	2645	0016130	0130	15187											
132		OBS	0095	1748	36437	2652			15183											
		STD	0100	1747	3645	2653	0015470	0169	15183											
		STD	0125	1739	3648	2657	0015151	0207	15185											
132		OBS	0141	1732	36481	2659			15186											
		STD	0150	1727	3647	2659	0015030	0245	15186											
132		OBS	T0186	1703	36408	2660			15184											
		STD	0200	1698	3638	2659	0015182	0321	15184											
		STD	0250	1669	3629	2660	0015336	0397	15183											
		STD	0300	1624	3619	2662	0015205	0473	15176											
132		OBS	0354	1556	36078	2669			15163											
		STD	0400	1477	3599	2680	0013744	0618	15144											
132		OBS	0439	1410	35894	2687			15128											
		STD	0500	1303	3570	2695	0012541	0749	15100											
132		OBS	T0523	1263	35640	2698			15090											
		STD	0600	1129	3547	2711	0011119	0868	15054											
132		OBS	0683	0987	35346	2726			15016											
		STD	0700	0955	3533	2731	0009261	0970	15007											
		STD	0800	0785	3527	2753	0007103	1051	14959											
132		OBS	T0834	0736	35244	2758			14945											
		STD	0900	0655	3520	2766	0005810	1116	14924											
		STD	1000	0560	3515	2774	0004965	1170	14902											
132		OBS	1057	0519																
		STD	1100	0509	3510	2776	0004760	1218	14897											
		STD	1200	0486	3506	2776	0004858	1267	14904											
		STD	1300	0463	3502	2775	0004951	1316	14911											
132		OBS	T1306	0462	35017	2775			14911											

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER			
CTRY CODE	IO. NO.					10°	1°	MO		DAY	HR./10			CRUISE NO.	STATION NUMBER	DIR.				HGT	PER	SEA
311273	55		3615 N	04915 W	113	69	06	03	131	1968	E12	006	5048	16	01		1	X1	8	2		0006
						WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB		WET BULB		VIS CODE								
										35	509	234	222	197	7	14						

MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	σ _t
		STD	0000	1852	3641	2624	0017924	0000	15197								
131		OBS	0000	1852	36406	2624			15197								
		STD	0010	1852	3640	2623	0017974	0018	15198								
		STD	0020	1850	3640	2624	0017969	0036	15199								
131		OBS	0025	1849	36402	2624			15200								
		STD	0030	1847	3640	2625	0017932	0054	15200								
131		OBS	0049	1839	36406	2627			15201								
		STD	0050	1839	3640	2626	0017823	0090	15201								
131		OBS	0074	1828	36395	2629			15202								
		STD	0075	1824	3640	2630	0017562	0134	15201								
131		OBS	0098	1752	36426	2650			15184								
		STD	0100	1750	3643	2650	0015721	0175	15184								
		STD	0125	1732	3641	2654	0015475	0214	15182								
131		OBS	0148	1718	36401	2656			15182								
		STD	0150	1717	3640	2656	0015307	0253	15182								
131		OBS	T0198	1694	36350	2658			15182								
		STD	0200	1693	3635	2658	0015285	0329	15182								
		STD	0250	1651	3628	2663	0015000	0405	15177								
		STD	0300	1598	3619	2668	0014623	0479	15168								
		STD	0400	1457	3597	2683	0013442	0620	15138								
131		OBS	T0400	1457	35973	2683			15138								
		STD	0500	1268	3569	2701	0011920	0746	15089								
131		OBS	0503	1262	35681	2701			15087								
		STD	0600	1088	3545	2717	0010512	0858	15040								
131		OBS	T0611	1069	35423	2718			15034								
		STD	0700	0902	3528	2735	0008733	0955	14986								
		STD	0800	0757	3518	2750	0007328	1035	14947								
131		OBS	0822	0731	35167	2753			14940								
		STD	0900	0680	3517	2760	0006369	1103	14933								
		STD	1000	0618	3518	2770	0005535	1163	14925								
131		OBS	T1043	0592	35188	2773			14922								
		STD	1100	0552	3514	2774	0005055	1216	14915								
		STD	1200	0493	3508	2777	0004802	1265	14907								
		STD	1300	0449	3503	2778	0004685	1313	14905								
131		OBS	1313	0444	35023	2778			14905								
		STD	1400	0419	3500	2779	0004606	1359	14909								
		STD	1500	0403	3498	2779	0004634	1405	14919								
131		OBS	T1600	0401	34978	2779			14935								

REFERENCE		SHIP		LATITUDE	LONGITUDE	ELEVATION INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES		WAVE OBSERVATIONS			WEA- THER CODE		CLOUD CODES		NODC STATION NUMBER
CITY CODE	ID. NO.	SHIP CODE		* 1/10	* 1/10		10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER		DIR	HGT	PER	SEA		TYP	AMT			
311273	S5		3645 N	04917 W			113	69	06	04	135	1968	E12 007		4801	15	12			1	X1	6	4	0007	
							WATER		WIND		BARO- METER		AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
							COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mbars)		DRY BULB	WET BULB	VIS. CODE										
									04	501	264	202	169	7	14										
MESSNGR TIME OF HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10 ³		S Δ D OPN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	Si O ₄ -Si μg - at/l	pH	SIC							
		STD	0000	1878	3643	2619	0018399		0000	15204															
135		OBS	0000	1878	36427	2619				15204															
		STD	0010	1866	3642	2621	0018196		0018	15202															
		STD	0020	1855	3641	2623	0018039		0036	15201															
135		OBS	0025	1849	36404	2624				15200															
		STD	0030	1846	3640	2625	0017901		0054	15200															
		STD	0050	1822	3640	2631	0017397		0090	15196															
135		OBS	0051	1820	36404	2631				15196															
		STD	0075	1760	3640	2646	0016043		0131	15182															
135		OBS	0076	1758	36401	2647				15182															
		STD	0100	1731	3642	2655	0015324		0171	15178															
135		OBS	0101	1730	36420	2655				15178															
		STD	0125	1722	3640	2655	0015324		0209	15179															
		STD	0150	1709	3638	2657	0015239		0247	15179															
135		OBS	0152	1708	36382	2657				15179															
		STD	0200	1672	3631	2660	0015095		0323	15176															
135		OBS	0203	1670	36307	2661				15176															
		STD	0250	1628	3620	2662	0015061		0398	15169															
		STD	0300	1576	3610	2667	0014789		0473	15160															
		STD	0400	1452	3588	2677	0014012		0617	15135															
135		OBS	T0408	1441	35866	2679				15133															
		STD	0500	1301	3568	2694	0012646		0750	15100															
135		OBS	0507	1288	35661	2695				15096															
		STD	0600	1067	3537	2714	0010716		0867	15031															
135		OBS	T0612	1041	35337	2716				15023															
		STD	0700	0853	3517	2735	0008736		0964	14967															
		STD	0800	0693	3505	2749	0007317		1045	14920															
135		OBS	0812	0678	35044	2750				14916															
		STD	0900	0611	3505	2759	0006316		1113	14904															
		STD	1000	0554	3505	2767	0005639		1173	14898															
135		OBS	T1020	0545	35047	2768				14898															
		STD	1100	0535	3506	2770	0005384		1228	14907															
		STD	1200	0517	3508	2774	0005101		1280	14917															
135		OBS	1269	0500	35098	2777				14922															
		STD	1300	0491	3509	2778	0004814		1330	14923															
		STD	1400	0459	3506	2779	0004703		1377	14926															
		STD	1500	0421	3501	2779	0004655		1424	14927															
135		OBS	1520	0412	34995	2779				14926															

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DAY MONTH	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- TH- CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
311	273	S5	3609 N	04749 W		113	67	06	06	177	1968	E12	008	5303	16	18			2	X1	2	5	0008
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. MM	DIR.	SPEED OR FORCE	DRY BULB	WET BULB																		
		19	514	173	219	187	7	14															
MISSING TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SiO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S C						
		STD	0000	1897	3648	2618	0018484	0000	15210														
177		OBS	0000	1897	36479	2618			15210														
		STD	0010	1890	3648	2619	0018357	0018	15210														
		STD	0020	1879	3648	2622	0018133	0037	15208														
177		OBS	0024	1873	36476	2624			15207														
		STD	0030	1855	3648	2628	0017566	0055	15203														
		STD	0050	1816	3649	2639	0016652	0089	15196														
177		OBS	0050	1816	36487	2639			15196														
		STD	0075	1813	3649	2639	0016683	0130	15199														
177		OBS	0078	1811	36485	2640			15199														
		STD	0100	1788	3649	2646	0016163	0171	15196														
177		OBS	0105	1784	36488	2647			15195														
		STD	0125	1777	3649	2649	0015976	0212	15197														
		STD	0150	1769	3649	2651	0015866	0251	15198														
177		OBS	0160	1766	36490	2651			15199														
		STD	0200	1758	3649	2653	0015779	0331	15203														
177		OBS	0209		36491																		
		STD	0250	1749	3647	2654	0015868	0410	15209														
		STD	0300	1739	3645	2655	0015986	0489	15214														
177		OBS	T0399	1720	36399	2656			15224														
		STD	0400	1719	3640	2656	0016211	0650	15224														
177		OBS	0499	1618	36198	2664			15207														
		STD	0500	1616	3619	2664	0015659	0810	15207														
		STD	0600	1424	3585	2681	0014216	0959	15159														
177		OBS	T0606	1414	35828	2681			15156														
		STD	0700	1282	3565	2695	0013014	1095	15126														
		STD	0800	1147	3550	2710	0011715	1219	15094														
177		OBS	0820	1120	35478	2713			15088														
		STD	0900	1007	3543	2729	0009864	1327	15060														
		STD	1000	0884	3537	2745	0008357	1418	15031														
177		OBS	T1034	0846	35352	2750			15022														
		STD	1100	0787	3533	2757	0007219	1496	15010														
		STD	1200	0705	3528	2765	0006439	1564	14994														
		STD	1300	0633	3524	2772	0005771	1625	14982														
177		OBS	1342	0605	35217	2774			14978														
		STD	1400	0570	3519	2776	0005328	1681	14973														
		STD	1500	0516	3513	2778	0005101	1733	14967														
177		OBS	T1650	0454	35041	2778			14966														

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR. 1/10	CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
311273	S5		3628 N	04845 W	113 68	06	08	129	1968	E12	009		5029	14	01			2	X1	7	6	0009	
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
		COLOR CODE	TRANS. IMI	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	CODE	CODE												
						32	508	169	246	203	6	14											
MESSAGE TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C C						
		STD	0000	1925	3644	2608	0019439	0000	15218														
129	OBS	0000	1925	36442	2608				15218														
	STD	0010	1921	3644	2609	0019377	0019	15210															
	STD	0020	1918	3644	2610	0019312	0039	15219															
129	OBS	0024	1916	36444	2610				15219														
	STD	0030	1893	3645	2616	0018741	0058	15214															
	STD	0050	1836	3645	2631	0017413	0094	15201															
129	OBS	0050	1836	36448	2631				15201														
	STD	0075	1814	3645	2636	0016975	0137	15199															
129	OBS	0078	1811	36448	2637				15198														
	STD	0100	1779	3646	2646	0016147	0178	15193															
129	OBS	0106	1773	36468	2648				15192														
	STD	0125	1765	3647	2650	0015853	0218	15193															
	STD	0150	1757	3647	2652	0015758	0258	15195															
129	OBS	0160	1755	36466	2652				15196														
	STD	0200	1755	3647	2652	0015868	0337	15202															
129	OBS	T0211	1754	36469	2653				15204														
	STD	0250	1745	3645	2653	0015934	0416	15207															
	STD	0300	1722	3640	2655	0015926	0496	15208															
	STD	0400	1633	3624	2664	0015366	0653	15196															
129	OBS	T0429	1597	36172	2667				15189														
	STD	0500	1478	3596	2678	0014279	0801	15161															
129	OBS	0531	1432	35887	2682				15150														
	STD	0600	1352	3580	2692	0013078	0938	15134															
129	OBS	T0628	1313	35750	2696				15125														
	STD	0700	1162	3553	2709	0011542	1061	15083															
	STD	0800	0981	3531	2725	0010065	1169	15032															
129	OBS	0832	0929	35260	2729				15018														
	STD	0900	0835	3523	2742	0008375	1261	14994															
	STD	1000	0714	3518	2756	0006994	1338	14963															
129	OBS	T1034	0678	35165	2760				14955														
	STD	1100	0613	3514	2767	0005925	1402	14940															
	STD	1200	0536	3510	2773	0005248	1458	14925															
129	OBS	1229	0519	35091	2775				14923														
	STD	1300	0486	3507	2777	0004892	1509	14921															
	STD	1400	0463	3504	2777	0004904	1558	14928															
129	OBS	T1436	0461	35028	2776				14933														

REFERENCE		SHIP CODE	LATITUDE ° ' 10	LONGITUDE ° ' 10	DATE MO DAY HR 1/10	MAPSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CRUISE CODE	ID. NO.					10"	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311273	S5	3625 N	04840 W	113	68	06	09	128	1968	E12	010	4480	16	30			1	X1	1	3	0010
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WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		03	507	220	241	179	7	14	

		03	S07	220	241	179	7	14	
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MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	1 C C
		STD	0000	1922	3647	2611	0019140	0000	15217								
128		OBS	0000	1922	36473	2611			15217								
		STD	0010	1921	3647	2611	0019140	0019	15218								
		STD	0020	1919	3647	2611	0019144	0038	15220								
128		OBS	0026	1918	36472	2612			15220								
		STD	0030	1900	3647	2616	0018731	0057	15216								
		STD	0050	1835	3647	2633	0017229	0093	15201								
128		OBS	0052	1831	36465	2633			15200								
		STD	0075	1818	3647	2637	0016918	0136	15200								
128		OBS	0078	1815	36470	2638			15200								
		STD	0100	1781	3648	2647	0016049	0177	15194								
128		OBS	0104	1777	36486	2648			15193								
		STD	0125	1771	3649	2650	0015856	0217	15195								
		STD	0150	1765	3649	2651	0015808	0257	15197								
128		OBS	0156	1764	36485	2652			15198								
		STD	0200	1761	3648	2652	0015915	0336	15204								
128		OBS	T0212	1759	36480	2652			15205								
		STD	0250	1748	3646	2654	0015931	0415	15208								
		STD	0300	1724	3642	2656	0015828	0495	15209								
		STD	0400	1643	3627	2664	0015376	0651	15199								
128		OBS	T0419	1623	36230	2666			15196								
		STD	0500	1517	3602	2674	0014689	0801	15174								
128		OBS	0528	1476	35949	2677			15165								
		STD	0600	1354	3578	2690	0013264	0941	15135								
128		OBS	T0637	1296	35709	2697			15121								
		STD	0700	1206	3559	2705	0011950	1067	15099								
		STD	0800	1076	3544	2718	0010823	1181	15068								
128		OBS	0856	1010	35389	2726			15053								
		STD	0900	0972	3539	2732	0009569	1283	15047								
		STD	1000	0879	3538	2746	0008235	1372	15029								
128		OBS	T1073	0803	35368	2758			15012								
		STD	1100	0757													
		STD	1200	0609													
		STD	1300	0501													
128		OBS	1348	0463	3516P	2787P											
		STD	1400	0456													
		STD	1500	0441													
128		OBS	T1634	0422	3499P	2778P											

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)				ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			CLOUD CODES	NODC STATION NUMBER	
					10"	1"	MO	DAY	HR./10	CRUISE NO.	STATION NUMBER							
311273	S5	3507 N	04802 W	113 58	06	10	160	1968	E12	011	4114	15	25		2	X1	7 2	0011
WATER					WIND			AIR TEMP. °C			NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
COLOR CODE	TRANS. M	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB	VIS. CODE											
			24	S12	183	230	210	7	14									
MESSNGR TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	Δ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SIO ₄ -S $\mu\text{g} - \text{at/l}$	pH	S C/C	
		STO	0000	1982	3638	2588	0021276	0000	15233									
160		OBS	0000	1982	36384	2588			15233									
		STO	0010	1978	3638	2589	0021219	0021	15233									
		STO	0020	1961	3638	2594	0020838	0042	15230									
160		OBS	0021	1958	36382	2594			15229									
		STO	0030	1923	3637	2603	0020020	0063	15221									
160		OBS	0045	1857	36354	2618			15205									
		STO	0050	1823	3635	2627	0017791	0101	15196									
160		OBS	0066	1750	36350	2645			15177									
		STO	0075	1749	3637	2646	0016012	0143	15179									
160		OBS	0090	1744	36397	2650			15180									
		STO	0100	1738	3639	2651	0015696	0182	15180									
		STO	0125	1722	3637	2653	0015556	0221	15179									
160		OBS	0132	1718	36361	2653			15179									
		STO	0150	1707	3635	2655	0015439	0260	15178									
160		OBS	T0175	1689	36323	2657			15177									
		STD	0200	1662	3627	2660	0015158	0337	15172									
		STO	0250	1604	3617	2666	0014743	0411	15162									
		STO	0300	1540	3606	2672	0014290	0484	15149									
160		OBS	T0360	1457	35923	2680			15131									
		STD	0400	1387	3580	2685	0013239	0622	15113									
160		OBS	0456	1307	35679	2692			15094									
		STO	0500	1279	3566	2696	0012355	0750	15092									
160		OBS	T0557	1218	35605	2704			15080									
		STO	0600	1094	3543	2714	0010767	0865	15042									
		STO	0700	0869	3516	2731	0009069	0964	14973									
160		OBS	0763	0773	35085	2740			14946									
		STO	0800	0765	3515	2746	0007671	1048	14949									
		STO	0900	0731	3528	2762	0006362	1118	14955									
160		OBS	T0966	0700	35305	2768			14954									
		STO	1000	0668	3525	2768	0005785	1179	14946									
		STO	1100	0584	3511	2768	0005726	1237	14928									
		STO	1200	0518	3502	2769	0005584	1293	14916									
160		OBS	1230	0502	35004	2770			14915									
		STO	1300	0470	3501	2774	0005150	1347	14913									
		STO	1400	0439	3501	2777	0004836	1397	14917									
160		OBS	T1484	0427	35006	2778			14926									

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT FOUR FOUR	MARSOEN SQUARE		STATION TIME IGMT			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOCC STATION NUMBER	
CTRY CODE	IO. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT
311273	55		3629 N	04850 W		113	68	06	11	129	1968	E12	012	4892	18	09			2	X6	5	8	0012
WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS														
COLOR CODE	TRANS. IMT	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																	
				04	S20	179	168	165	5	14													
MESSNGR TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ σ OYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SIO ₄ -Si μg - at/l	pH							
		STD	0000	1897	3643	2614	0018825	0000	15210														
129		OBS	0000	1897	36432	2614			15210														
		STD	0010	1896	3644	2614	0018825	0019	15211														
		STD	0020	1896	3644	2615	0018829	0038	15213														
		STD	0030	1895	3644	2615	0018829	0056	15214														
129		OBS	0031	1895	36440	2615			15214														
		STD	0050	1838	3642	2628	0017664	0093	15201														
129		OBS	0061	1813	36417	2634			15196														
		STD	0075	1794	3642	2639	0016704	0136	15192														
129		OBS	0091	1777	36433	2644			15190														
		STD	0100	1771	3644	2646	0016104	0177	15190														
129		OBS	0122	1760	36467	2651			15191														
		STD	0125	1760	3647	2651	0015729	0217	15191														
		STD	0150	1760	3647	2652	0015774	0256	15195														
129		OBS	0182	1759	36478	2652			15201														
		STD	0200	1750	3645	2652	0015881	0335	15201														
129		OBS	T0241	1727	36395	2654			15200														
		STD	0250	1723	3639	2654	0015855	0415	15200														
		STD	0300	1695	3633	2656	0015807	0494	15199														
		STD	0400	1615	3619	2665	0015321	0649	15190														
129		OBS	T0479	1527	36044	2673			15174														
		STD	0500	1499	3600	2676	0014443	0798	15168														
		STD	0600	1352	3577	2690	0013296	0937	15134														
129		OBS	0606	1342	35760	2691			15132														
		STD	0700	1171	3552	2707	0011786	1062	15086														
129		OBS	T0734	1114	35451	2712			15071														
		STD	0800	1008	3539	2726	0009958	1171	15043														
		STD	0900	0870	3531	2743	0008368	1263	15008														
129		OBS	0977	0782	35261	2753			14987														
		STD	1000	0763	3526	2755	0007174	1340	14983														
		STD	1100	0686	3524	2765	0006283	1408	14970														
		STD	1200	0619	3521	2771	0005639	1467	14960														
129		OBS	T1217	0608	35204	2772			14958														
		STD	1300	0560	3516	2775	0005274	1522	14952														
		STD	1400	0510	3511	2777	0005046	1573	14948														
		STD	1500	0470	3507	2779	0004887	1623	14948														
129		OBS	1505	0468	35064	2778			14948														
		STD	1750	0407	3498	2778	0004914	1746	14962														
129		OBS	T1786	0403	34974	2778			14967														

REFERENCE NO.		SHIP CODE	LATITUDE 1:10	LONGITUDE 1:10	DATE INDEX	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE		CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	IO. NO.					10"	1"	MO	DAY		HR:1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER	SEA	TYPE	AMT		
311273		S5	3636 N	04845 W		113	68	06	12	125	1968	E12	013	5258	52	08			2	X1	8	5	0013
						WATER		WIND		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. (mm)	DIR	SPEED OF FORCE	BARO-METER (mbars)	DRY BULB					WET BULB							
										04	509	288	164	124	7	21							
MESSAGE TIME OF HR 1:10	CAS. NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D OYN. M × 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl.l	TOTAL-P μg - dl.l	NO ₃ -N μg - dl.l	NO ₂ -N μg - dl.l	SiO ₄ -S μg - dl.l	pH	S. C.						
		STD	0000	1919	3645	2609	0019262	0000	15216														
125		OBS	0000	1919	36446	2609			15216														
		STD	0010	1916	3645	2610	0019235	0019	15217														
		STD	0020	1914	3645	2611	0019214	0038	15218														
125		OBS	0027	1912	36445	2611			15218														
		STD	0030	1900	3645	2615	0018876	0058	15216														
		STD	0050	1839	3647	2632	0017325	0094	15202														
125		OBS	0053	1833	36473	2633			15201														
		STD	0075	1823	3648	2636	0016994	0137	15202														
125		OBS	0080	1818	36476	2637			15201														
		STD	0100	1780	3647	2646	0016098	0178	15193														
125		OBS	0106	1772	36465	2648			15192														
		STD	0125	1767	3647	2650	0015885	0218	15193														
		STD	0150	1762	3648	2651	0015810	0258	15196														
125		OBS	0160	1761	36477	2652			15198														
		STD	0200	1761	3648	2652	0015936	0337	15204														
125		OBS	T0214	1759	36478	2652			15206														
		STD	0250	1745	3644	2653	0016006	0417	15207														
		STD	0300	1717	3638	2655	0015955	0497	15206														
		STD	0400	1631	3621	2662	0015537	0654	15195														
125		OBS	T0423	1605	36169	2665			15190														
		STD	0500	1496	3598	2675	0014522	0804	15167														
125		OBS	0535	1450	35908	2680			15157														
		STD	0600	1374	3582	2689	0013387	0944	15142														
125		OBS	T0643	1318	35756	2696			15130														
		STD	0700	1215	3560	2704	0012052	1071	15102														
		STD	0800	1052	3539	2718	0010749	1185	15059														
125		OBS	0861	0964	35300	2727			15036														
		STD	0900	0915	3529	2734	0009273	1285	15024														
		STD	1000	0798	3527	2751	0007661	1370	14997														
125		OBS	T1081	0713	35249	2762			14977														
		STD	1100	0704	3524	2762	0006559	1441	14977														
		STD	1200	0659	3520	2765	0006313	1505	14975														
		STD	1300	0617	3517	2769	0006040	1567	14975														
125		*STD	13530	0507	35054	2773	0005359	1597	14975														
		STD	1400	0578	3513	2770	0005884	1624	14976														
		STD	1500	0542	3510	2773	0005697	1682	14977														
125		*STD	16270	0415	34973	2777	0004963	1749	14977														
		STD	1750	0464	3504	2777	0005281	1812	14987														
		STD	2000	0405	3499	2779	0005036	1941	15004														
151		OBS	T2175	0374	34972	2781			15021														
		STD	2500	0352	3497	2783	0004817	2188	15067														
151		OBS	2727	0336	34963	2784			15099														
		STD	3000	0316	3495	2785	0004766	2427	15138														
151		OBS	T3286	0294	34939	2786			15178														
151		OBS	T3825	0247	34912	2788			15252														
151		*STD	43780	0232	34895	2788	0004520	3067	15252														
151		*STD	50250	0228	34893	2788	0004733	3366	15252														
151		*STD	51750	0235	34894	2788	0004917	3439	15252														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR./10	CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA	1/10	AMT	

311273	S5	3643 N	04907 W	113	69	06	13	189	1968	E12	014	4846	15	18			1	X1	8	2	0014
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

		17	510	318	197	134	7	14	
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WESSINGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SIO ₄ -Si $\mu g \cdot dl/l$	pH	S DT
		STD	0000	1980	3643	2592	0020907	0000	15233								
189		OBS	0000	1980	36428	2592			15233								
		STD	0010	1969	3642	2595	0020712	0021	15231								
		STD	0020	1949	3642	2599	0020286	0041	15227								
189		OBS	0025	1936	36414	2603			15224								
		STD	0030	1911	3642	2609	0019385	0061	15218								
		STD	0050	1837	3643	2629	0017575	0098	15201								
189		OBS	0051	1834	36430	2630			15200								
		STD	0075	1806	3644	2638	0016858	0141	15196								
189		OBS	0076	1804	36438	2638			15196								
		STD	0100	1758	3644	2649	0015814	0182	15186								
189		OBS	0101	1757	36438	2650			15186								
		STD	0125	1753	3644	2651	0015761	0221	15189								
		STD	0150	1748	3644	2652	0015741	0261	15192								
189		OBS	0151	1748	36441	2652			15192								
		STD	0200	1735	3641	2653	0015821	0340	15196								
189		OBS	T0202	1734	36407	2653			15196								
		STD	0250	1713	3638	2656	0015695	0419	15197								
		STD	0300	1680	3633	2660	0015462	0496	15195								
		STD	0400	1582	3616	2670	0014800	0648	15179								
189		OBS	T0402	1580	36156	2670			15179								
		STD	0500	1441	3589	2680	0014027	0792	15148								
189		OBS	0502	1438	35880	2680			15147								
		STD	0600	1321	3573	2693	0012954	0927	15123								
189		OBS	T0604	1316	35727	2694			15122								
		STD	0700	1143	3550	2710	0011401	1049	15076								
		STD	0800	0983	3533	2726	0009954	1155	15033								
189		OBS	0807	0973	35318	2727			15031								
		STD	0900	0839	3526	2744	0008199	1246	14996								
		STD	1000	0728	3520	2756	0007035	1322	14969								
189		OBS	T1003	0725	35202	2756			14968								
		STD	1100	0682	3521	2763	0006477	1390	14968								
		STD	1200	0633	3521	2769	0005870	1452	14965								
189		OBS	1264	0601	35209	2774			14963								
		STD	1300	0582	3519	2775	0005375	1508	14961								
		STD	1400	0528	3513	2777	0005156	1560	14955								
		STD	1500	0470	3504	2776	0005106	1612	14947								
189		OBS	T1528	0453	35014	2776			14945								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	OBS. NO.	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			CLOUD CODES	TIME (GMT)	NODE STATION NUMBER
CTRY CODE	ID. NO.						MO	DAY	HR/10		CRUISE NO.	STATION NUMBER			DIR	HGT/PER	SEA			
311273	S5		3504 N	04801 W	113	58 06 14	185	1968	E12 015		4206	41	20			1	X1	8 2		0015
						WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS				
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE								
									18 S08	305	219	173	7	21						

WESSENGER TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SIO ₄ -Si $\mu g - dl/l$	pH	S C C
		STD	0000	2020	3635	2575	0022502	0000	15243								
185		OBS	0000	2020	36347	2575			15243								
		STD	0010	2000	3635	2581	0022011	0022	15239								
		STD	0020	1971	3635	2589	0021320	0044	15233								
185		OBS	0025	1952	36353	2594			15228								
		STD	0030	1920	3635	2602	0020062	0065	15220								
		STD	0050	1821	3636	2628	0017722	0102	15195								
185		OBS	0050	1821	36356	2628			15195								
		STD	0075	1761	3633	2640	0016582	0145	15182								
185		OBS	0075	1761	36330	2640			15182								
185		OBS	0099	1732	36330	2647			15177								
		STD	0100	1731	3633	2648	0015970	0186	15177								
		STD	0125	1706	3632	2653	0015550	0225	15174								
185		OBS	0149	1683	36297	2657			15170								
		STD	0150	1682	3630	2657	0015259	0264	15170								
185		OBS	0199	1642	36233	2661			15166								
		STD	0200	1640	3623	2662	0014952	0339	15165								
		STD	0250	1564	3609	2669	0014441	0413	15148								
		STD	0300	1496	3598	2675	0013923	0484	15134								
185		OBS	T0398	1382	35810	2687			15111								
		STD	0400	1381	3581	2687	0013043	0619	15111								
185		OBS	0499	1294	35721	2698			15098								
		STD	0500	1293	3572	2698	0012196	0745	15097								
		STD	0600	1152	3551	2710	0011234	0862	15063								
185		OBS	T0600	1152	35513	2710			15063								
		STD	0700	0952	3533	2731	0009210	0964	15006								
		STD	0800	0800	3522	2747	0007706	1049	14964								
185		OBS	0801	0799	35219	2747			14964								
		STD	0900	0714	3521	2758	0006615	1120	14947								
185		OBS	T0999	0640	35189	2767			14934								
		STD	1000	0639	3519	2767	0005804	1182	14934								
		STD	1100	0577	3515	2772	0005348	1238	14925								
		STD	1200	0524	3511	2775	0005030	1290	14920								
185		OBS	1255	0500	35084	2776			14919								
		STD	1300	0485	3507	2777	0004878	1340	14920								
		STD	1400	0456	3503	2777	0004882	1388	14924								
		STD	1500	0431	3501	2778	0004789	1437	14931								
185		OBS	T1511	0429	35007	2778			14932								
		STD	1750	0401	3500	2781	0004686	1555	14960								
209		OBS	T1955	0379	34990	2782			14986								
		STD	2000	0375	3499	2783	0004612	1671	14992								
209		OBS	2452	0334	34968	2785			15051								
		STD	2500	0329	3496	2785	0004552	1901	15057								
209		OBS	T2938	0289	34936	2787			15115								
		STD	3000	0281	3493	2787	0004375	2124	15123								
209		OBS	3435		34916												
209		OBS	3932	0225	34895	2789			15261								
209		OBS	T3979	0225	34894	2789			15269								
		STD	4000	0226	3489	2789	0004258	2555	15273								
209		OBS	T4068	0228	34894	2789			15286								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MOON PHASE	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10	CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA	TYPE	AMT	

311273	S5	3503 N	04803 W			113	58	06	15	128	1968	E12 016	4160	15	06			1	X1	8 3	0016
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WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		00	500	295	213	187	7	14	

		00	S00	295	213	187	7	14	
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MESSENGER TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D OYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 01/l	TOTAL-P μg - 01/l	NO ₂ -N μg - 01/l	NO ₃ -N μg - 01/l	SIO ₄ -Si μg - 01/l	pH	SC
		STD	0000	1985	3636	2585	0021546	0000	15233								
128		OBS	0000	1985	36357	2585			15233								
		STD	0010	1985	3636	2585	0021598	0022	15235								
		STD	0020	1967	3635	2590	0021198	0043	15231								
128		OBS	0025	1951	36352	2594			15228								
		STD	0030	1912	3635	2604	0019880	0064	15218								
		STD	0050	1797	3635	2633	0017167	0101	15188								
128		OBS	0051	1793	36354	2634			15187								
		STD	0075	1752	3635	2644	0016227	0142	15179								
128		OBS	0076	1751	36348	2644			15179								
		STD	0100	1733	3636	2649	0015805	0182	15178								
128		OBS	0102	1732	36360	2650			15178								
		STD	0125	1717	3635	2653	0015586	0222	15177								
		STD	0150	1698	3633	2656	0015378	0260	15176								
128		OBS	0153	1696	36322	2656			15175								
		STD	0200	1651	3626	2661	0014982	0336	15169								
128		OBS	T0208	1643	36248	2662			15168								
		STD	0250	1576	3613	2669	0014414	0410	15152								
		STD	0300	1502	3600	2676	0013906	0480	15136								
		STD	0400	1378	3580	2687	0013054	0615	15110								
128		OBS	T0406	1372	35787	2687			15109								
		STD	0500	1289	3567	2695	0012480	0743	15095								
128		OBS	0511	1276	35657	2697			15093								
		STD	0600	1138	3550	2711	0011067	0861	15058								
128		OBS	T0614	1116	35473	2713			15052								
		STD	0700	0957	3533	2730	0009295	0962	15007								
		STD	0800	0808	3522	2745	0007833	1048	14967								
128		OBS	0819	0784	35203	2748			14961								
		STD	0900	0707	3519	2758	0006656	1121	14944								
		STD	1000	0629	3517	2767	0005775	1183	14930								
128		OBS	T1019	0616	35170	2769			14928								
		STD	1100	0578	3515	2772	0005348	1238	14926								
		STD	1200	0535	3512	2775	0005088	1291	14925								
128		OBS	1279	0506	35101	2777			14926								
		STD	1300	0499	3510	2778	0004851	1340	14926								
		STD	1400	0468	3507	2779	0004753	1388	14930								
		STD	1500	0442	3504	2779	0004720	1436	14936								
128		OBS	T1539	0434	35025	2779			14939								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE
311273	55		3503 N	04803 W	113	58	06	16	132	1968	E12	017	4023	15	17			1	X1	3	2	0017
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB													
						14	503	261	224	192	6	14										
MESSNGR TIME OF HR 1/10	CAS- T NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SiO ₄ -Si $\mu g \cdot dl/l$	pH	S OC					
		STD	0000	1989	3636	2584	0021654	0000	15234													
132		OBS	0000	1989	36356	2584			15234													
		STD	0010	1933	3635	2598	0020339	0021	15220													
		STD	0020	1884	3635	2611	0019211	0041	15208													
132		OBS	0025	1863	36342	2616			15203													
		STD	0030	1843	3634	2621	0018279	0060	15198													
		STD	0050	1784	3634	2636	0016948	0095	15185													
132		OBS	0051	1782	36342	2636			15184													
		STD	0075	1760	3640	2646	0016029	0136	15182													
132		OBS	0075	1760	36403	2646			15182													
		STD	0100	1746	3638	2648	0015926	0176	15182													
132		OBS	0100	1746	36384	2648			15182													
		STD	0125	1737	3641	2652	0015618	0215	15184													
		STD	0150	1728	3642	2655	0015426	0254	15186													
132		OBS	0151	1728	36421	2655			15186													
		STD	0200	1712	3638	2656	0015505	0331	15188													
132		OBS	T0203	1710	36372	2656			15188													
		STD	0250	1626	3621	2663	0014944	0408	15169													
		STD	0300	1547	3606	2670	0014443	0481	15151													
132		OBS	T0399	1417	35848	2682			15123													
		STD	0400	1417	3585	2682	0013518	0621	15123													
132		OBS	0497	1325	35749	2694			15108													
		STD	0500	1319	3574	2694	0012570	0751	15106													
132		OBS	T0591	1144	35494	2710			15058													
		STD	0600	1128	3548	2712	0011027	0869	15054													
		STD	0700	0964	3532	2728	0009488	0972	15010													
132		OBS	0790	0845	35242	2741			14979													
		STD	0800	0836	3524	2743	0008113	1060	14978													
		STD	0900	0748	3525	2757	0006815	1135	14961													
132		OBS	0986	0680	35264	2767			14949													
		STD	1000	0669	3525	2768	0005800	1198	14947													
		STD	1100	0596	3518	2772	0005386	1254	14933													
		STD	1200	0537	3512	2775	0005116	1306	14925													
132		OBS	1235	0520	35107	2776			14924													
		STD	1300	0493	3508	2777	0004915	1356	14924													
		STD	1400	0464	3506	2779	0004772	1405	14928													
132		OBS	T1490	0450	35054	2780			14937													

REFERENCE		SHIP CODE	LATITUDE ° ' ''	LONGITUDE ° ' ''	ORBIT INDIC	MARSDEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.						10"	1"		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		TYPE	AMT	

311273	S5	3504 N	04803 W	113	58	06	17	128	1968	E12	018	4023	15	16		1	X1	6	6	0018
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIL CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR	SPEED OR FORCE		DRY BULB	WET BULB			

13	S07	268	213	6	14				
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MISSING TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	3 C C
		STD	0000	1994	3641	2587	0021403	0000	15236								
128		OBS	0000	1994	36408	2587			15236								
		STD	0010	1960	3638	2594	0020791	0021	15228								
		STD	0020	1923	3636	2602	0020056	0042	15219								
128		OBS	0025	1903	36359	2607			15215								
		STD	0030	1875	3636	2614	0018927	0061	15208								
		STD	0050	1792	3636	2635	0017005	0097	15187								
128		OBS	0051	1789	36360	2636			15186								
		STD	0075	1754	3638	2646	0016063	0138	15180								
128		OBS	0076	1753	36380	2646			15180								
		STD	0100	1745	3639	2649	0015880	0178	15182								
128		OBS	0101	1745	36388	2649			15182								
		STD	0125	1735	3638	2651	0015770	0218	15183								
		STD	0150	1724	3638	2653	0015650	0257	15184								
128		OBS	0152	1723	36374	2653			15184								
		STD	0200	1700	3635	2657	0015445	0335	15185								
128		OBS	T0204	1697	36346	2657			15184								
		STD	0250	1621	3623	2666	0014701	0410	15167								
		STD	0300	1544	3610	2674	0014087	0482	15150								
		STD	0400	1408	3584	2684	0013360	0619	15120								
128		OBS	T0401	1407	35840	2684			15120								
		STD	0500	1301	3573	2697	0012283	0748	15100								
128		OBS	0507	1291	35713	2698			15098								
		STD	0600	1128	3549	2712	0010954	0864	15054								
128		OBS	T0604	1121	35479	2713			15052								
		STD	0700	0929	3527	2730	0009258	0965	14996								
		STD	0800	0785	3516	2744	0007909	1051	14957								
128		OBS	0812	0772	35154	2746			14954								
		STD	0900	0727	3523	2758	0006667	1124	14952								
		STD	1000	0671	3526	2768	0005757	1186	14947								
128		OBS	T1005	0668	35262	2769			14947								
		STD	1100	0595	3519	2773	0005298	1241	14933								
		STD	1200	0534	3513	2776	0005000	1292	14924								
128		OBS	1269	0500	35097	2777			14922								
		STD	1300	0487	3508	2778	0004832	1342	14921								
		STD	1400	0456	3505	2779	0004736	1389	14925								
		STD	1500	0441	3504	2780	0004706	1437	14935								
128		OBS	T1529	0439	35039	2780			14939								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CITY CODE	ID. NO.					10°	1°	MO DAY HR. 1/10		CRUISE NO.	STATION NUMBER		DIR	HGT	PER		SEA	TYPE	
311273		S5	3503 N	04803 W	113	58	06	18 126	1968	E12	019	4160	15	18		1	X1	4 6	0019
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS			
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	OPY BULB	WET BULB	OPY BULB	WET BULB						
									14	508	288	218	164	7	14				
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P ug - dl/l	TOTAL-P ug - dl/l	NO ₃ -N ug - dl/l	NO ₃ -N ug - dl/l	SIO ₄ -S ug - dl/l	...	C		
		STD	0000	2026	3639	2577	0022379	0000	15245										
126		OBS	0000	2026	36385	2577			15245										
		STD	0010	1983	3637	2587	0021439	0022	15234										
		STD	0020	1938	3636	2598	0020427	0043	15224										
126		OBS	0024	1920	36352	2602			15219										
		STD	0030	1883	3634	2611	0019259	0063	15210										
		STD	0050	1793	3632	2632	0017327	0099	15187										
126		OBS	0050	1793	36319	2632			15187										
		STD	0075	1752	3634	2644	0016270	0141	15179										
126		OBS	0075	1752	36344	2644			15179										
126		OBS	0099	1728	36338	2649			15176										
		STD	0100	1727	3634	2649	0015826	0181	15176										
		STD	0125	1703	3632	2654	0015489	0221	15173										
		STD	0150	1683	3630	2657	0015245	0259	15171										
126		OBS	0150	1683	36301	2657			15171										
		STD	0200	1654	3627	2662	0014977	0335	15170										
126		OBS	T0201	1653	36265	2661			15170										
		STD	0250	1589	3615	2667	0014555	0408	15157										
		STD	0300	1526	3603	2673	0014205	0480	15144										
126		OBS	T0396	1410	35853	2684			15120										
		STD	0400	1407	3585	2685	0013288	0618	15120										
126		OBS	0499	1293	35706	2697			15097										
		STD	0500	1291	3570	2697	0012302	0746	15096										
126		OBS	T0599	1116	35476	2714			15050										
		STD	0600	1114	3547	2713	0010842	0861	15049										
		STD	0700	0922	3528	2732	0009067	0961	14994										
		STD	0800	0782	3517	2745	0007789	1045	14956										
126		OBS	0800	0782	35170	2745			14956										
		STD	0900	0721	3520	2757	0006780	1118	14950										
		STD	1000	0659	3523	2768	0005769	1181	14942										
126		OBS	1002	0658	35235	2768			14942										
		STD	1100	0580	3516	2773	0005303	1236	14927										
		STD	1200	0519	3510	2775	0005012	1288	14918										
126		OBS	1254	0494	35079	2777			14916										
		STD	1300	0486	3507	2777	0004866	1337	14921										
		STD	1400	0468	3506	2778	0004815	1386	14930										
		STD	1500	0450	3505	2779	0004759	1433	14939										
126		OBS	T1515	0447	35047	2779			14940										

REFERENCE		SHIP	LATITUDE	LONGITUDE	DATE	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.	SHIP CODE	* 1°10'	* 1°10'	MO	DAY	HR./10	MO	DAY	HR./10	CRUISE NO.	STATION NUMBER	DEPTH TO BOTTOM	DIR	HGT	PER	SEA	TYPE	AMT		
311273	S5	3503 N	04803 W	113	58	06	19	116	1968	E12	020		4023	15	17		0	X1	3	5	0020
		WATER		WIND		BARO-METER		AIR TEMP. °C		VIL CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB												
				14	507	278		218	207	7		14									
MESSAGE TIME HR. 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-107		S Δ D DWN. X 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -Si μg - ml/l	pH		
		STD	0000	2068	3638	2565		0023526		0000		15256									
116		OBS	0000	2068	36375	2565						15256									
		STD	0010	2002	3638	2583		0021844		0023		15240									
		STD	0020	1943	3638	2598		0020406		0044		15225									
116		OBS	0025	1917	36385	2605						15219									
		STD	0030	1892	3639	2612		0019152		0064		15213									
		STD	0050	1816	3639	2631		0017378		0100		15194									
116		OBS	0051	1813	36387	2632						15194									
		STD	0075	1778	3646	2646		0016058		0142		15188									
116		OBS	0076	1777	36460	2646						15188									
		STD	0100	1758	3644	2650		0015770		0182		15186									
116		OBS	0101	1757	36443	2650						15186									
		STD	0125	1742	3642	2652		0015657		0221		15186									
		STD	0150	1721	3639	2655		0015472		0260		15183									
116		OBS	0152	1719	36388	2655						15183									
		STD	0200	1661	3628	2661		0015063		0336		15172									
116		OBS	10205	1655	36270	2661						15171									
		STD	0250	1574	3610	2667		0014588		0410		15151									
		STD	0300	1493	3594	2673		0014149		0482		15132									
		STD	0400	1355	3573	2686		0013095		0618		15102									
116		OBS	10402	1353	35723	2686						15101									
		STD	0500	1256	3564	2699		0012049		0744		15084									
116		OBS	0507	1247	35633	2701						15082									
		STD	0600	1087	3543	2715		0010640		0858		15039									
116		OBS	10610	1070	35416	2717						15035									
		STD	0700	0908	3526	2733		0008979		0956		14988									
		STD	0800	0771	3516	2746		0007691		1039		14952									
116		OBS	0819	0750	35149	2749						14947									
		STD	0900	0703	3519	2758		0006595		1110		14942									
		STD	1000	0644	3521	2768		0005723		1172		14936									
116		OBS	1027	0628	35211	2770						14934									
		STD	1100	0571	3515	2773		0005248		1227		14923									
		STD	1200	0511	3508	2775		0005048		1278		14914									
116		OBS	1288	0473	35046	2776						14913									
		STD	1300	0472	3505	2777		0004876		1328		14915									
		STD	1400	0463	3505	2778		0004827		1377		14928									
		STD	1500	0453	3505	2779		0004781		1425		14941									
116		OBS	11548	0449	35055	2780						14947									

TABLE VII.—Observed and interpolated oceanographic data for stations taken by OCGC HALF MOON at Ocean Station ECHO, 20 June–12 July 1968, prepared from NODC listing No. 31-1304

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO		DAY	HR. 1/10			CRUISE NO.	STATION NUMBER	DIR	HGT		PER	SEA		TYPE
311304	HM		35008N	04801 W	113	58	06	20	162	1968	E13 001	4297	15	14	0	5		X1	8	2		0001
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS				
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mbal)	DRY BULB	WET BULB	VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
									23	506	260	233	216	8	14							
MESSAGE TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME AND WALT-10 ³	S Δ 0 DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SIO ₄ -Si μg - dl/l	pH	T °C					
		STD	0000	2187	3630	2526	0027218	0000	15286													
162		OBS	0000	2187	36296	2526			15286													
		STD	0010	2090	3632	2554	0024530	0026	15263													
		STD	0020	2013	3633	2576	0022522	0049	15244													
162		OBS	0025	1982	36338	2585			15236													
		STD	0030	1970	3635	2589	0021331	0071	15234													
		STD	0050	1900	3636	2608	0019600	0112	15218													
162		OBS	0050	1900	36360	2608			15218													
		STD	0075	1763	3631	2639	0016745	0158	15182													
162		OBS	0075	1763	36314	2639			15182													
		STD	0100	1734	3634	2648	0015937	0199	15178													
162		OBS	0100	1734	36344	2648			15178													
		STD	0125	1712	3634	2653	0015543	0238	15176													
		STD	0150	1686	3632	2657	0015212	0276	15172													
162		OBS	0150	1686	36315	2657			15172													
		STD	0200	1625	3621	2664	0014753	0351	15160													
162		OBS	T0200	1625	36211	2664			15160													
		STD	0250	1558	3610	2671	0014237	0424	15147													
		STD	0300	1491	3599	2677	0013743	0494	15132													
162		OBS	0397	1358	35784	2690			15103													
		STD	0400	1354	3578	2690	0012711	0626	15102													
162		OBS	T0494	1222	35598	2703			15071													
		STD	0500	1210	3558	2704	0011597	0747	15067													
162		OBS	T0587	1052	35373	2717			15024													
		STD	0600	1028	3535	2720	0010168	0856	15017													
		STD	0700	0865	3522	2737	0008564	0950	14972													
162		OBS	0790	0748	35151	2749			14941													
		STD	0800	0739	3515	2750	0007272	1029	14939													
		STD	0900	0655	3514	2761	0006251	1097	14923													
162		OBS	T0989	0593	35126	2768			14913													
		STD	1000	0587	3512	2769	0005563	1156	14912													
		STD	1100	0536	3509	2772	0005200	1210	14908													
		STD	1200	0492	3506	2775	0004935	1260	14906													
162		OBS	1240	0477	35046	2776			14907													
		STD	1300	0457	3503	2777	0004792	1309	14908													
		STD	1400	0429	3501	2778	0004665	1356	14913													
		STD	1500	0409	3499	2779	0004640	1403	14921													
162		OBS	T1502	0409	34990	2779			14922													

REFERENCE CTRY CODE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSSEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
					10°	1°	MO	DAY	HR.1/10	CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA	TYPE	AMT	

311304	HM	35014N	04800 W	113	58	06	21	140	1968	E13	002	4298	15	18			1	X1	8 2	0002
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WATER		WIND		BARO- METER	AIR TEMP. °C		VIS	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

				21	510	280	233	216	8	14
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MESSAGE TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - 01/l$	TOTAL-P $\mu g - 01/l$	NO ₃ -N $\mu g - 01/l$	NO ₂ -N $\mu g - 01/l$	SiO ₄ -S $\mu g - 01/l$	pH	1 COO
		STD	0000	2191	3633	2527	0027072	0000	15287								
140		OBS	0000	2191	36331	2527			15287								
		STD	0010	2096	3633	2554	0024614	0026	15264								
		STD	0020	2016	3633	2575	0022598	0049	15245								
140		OBS	0024	1988	36327	2582			15238								
		STD	0030	1960	3633	2590	0021248	0071	15231								
		STD	0050	1869	3633	2613	0019078	0112	15209								
140		OBS	0050	1869	36328	2613			15209								
140		OBS	0074	1766	36358	2641			15183								
		STD	0075	1765	3636	2642	0016472	0156	15183								
140		OBS	0099	1744	36353	2646			15181								
		STD	0100	1743	3635	2646	0016103	0197	15181								
		STD	0125	1712	3634	2653	0015543	0236	15176								
140		OBS	0149	1683	36310	2658			15171								
		STD	0150	1682	3631	2658	0015157	0275	15170								
		STD	0200	1625	3621	2664	0014775	0350	15160								
140		OBS	T0200	1625	36208	2664			15160								
		STD	0250	1577	3613	2669	0014436	0423	15153								
140		OBS	0299	1522	36043	2674			15143								
		STD	0300	1521	3604	2674	0014024	0494	15142								
140		OBS	T0398	1383	35825	2688			15112								
		STD	0400	1380	3582	2688	0012950	0629	15111								
		STD	0500	1230	3559	2701	0011908	0753	15074								
140		OBS	0597	1077	35407	2715			15035								
		STD	0600	1070	3540	2716	0010551	0865	15033								
		STD	0700	0875	3523	2736	0008654	0961	14976								
140		OBS	0798	0734	35132	2749			14937								
		STD	0800	0733	3513	2750	0007313	1041	14937								
		STD	0900	0663	3515	2761	0006301	1109	14926								
		STD	1000	0602	3517	2770	0005438	1168	14919								
140		OBS	1000	0602	35166	2770			14919								
		STD	1100	0552	3511	2772	0005275	1221	14915								
		STD	1200	0504	3507	2775	0005025	1273	14911								
140		OBS	1254	0480	35054	2776			14910								
		STD	1300	0460	3504	2777	0004759	1322	14910								
		STD	1400	0418	3502	2780	0004446	1368	14909								
		STD	1500	0380	3502	2784	0004039	1410	14910								
140		OBS	T1505	0378	35018	2784			14910								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY HR 1/10	MARS DEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.						CRUISE NO.	STATION NUMBER		DIR	HGT			PER	SEA	TYPE		AMT		
311304	HM		34593N	04800 W	113 48 06 22 146	1968	E13	003		4316	16	20				2	X1	2 2		0003
WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB															
		21	S13	280	233	216	8	14												
MESSNGR TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S °..	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C C			
		STD	0000	2198	3624	2518	0027930	0000	15288											
146		OBS	0000	2198	36238	2518			15288											
		STD	0010	2082	3628	2554	0024612	0026	15260											
		STD	0020	1988	3631	2581	0022036	0050	15237											
146		OBS	0026	1941	36326	2595			15225											
		STD	0030	1922	3633	2600	0020314	0071	15220											
		STD	0050	1834	3632	2622	0018272	0109	15199											
146		OBS	0052	1826	36323	2624			15197											
		STD	0075	1744	3633	2644	0016208	0152	15177											
146		OBS	0079	1734	36328	2647			15175											
		STD	0100	1712	3633	2652	0015532	0192	15171											
146		OBS	0106	1707	36332	2654			15171											
		STD	0125	1701	3633	2655	0015363	0231	15172											
		STD	0150	1689	3632	2657	0015245	0269	15173											
146		OBS	0161	1683	36310	2658			15173											
		STD	0200	1655	3627	2661	0014999	0345	15170											
146		OBS	T0217	1640	36248	2663			15168											
		STD	0250	1607	3619	2666	0014664	0419	15163											
		STD	0300	1545	3609	2673	0014181	0491	15151											
146		OBS	0324	1510	36024	2676			15143											
		STD	0400	1366	3576	2686	0013100	0627	15106											
146		OBS	T0429	1314	35680	2691			15092											
		STD	0500	1202	3555	2703	0011663	0751	15064											
		STD	0600	1052	3540	2719	0010229	0861	15026											
146		OBS	T0646	0986	35350	2727			15009											
		STD	0700	0905	3531	2737	0008563	0955	14988											
		STD	0800	0773	3525	2753	0007062	1033	14954											
146		OBS	0864	0702	35208	2760			14936											
		STD	0900	0669	3518	2762	0006162	1099	14929											
		STD	1000	0589	3513	2769	0005518	1157	14913											
146		OBS	T1083	0537	35092	2773			14905											
		STD	1100	0530	3509	2773	0005117	1210	14905											
		STD	1200	0495	3506	2775	0004976	1261	14907											
		STD	1300	0466	3504	2777	0004840	1310	14912											
146		OBS	1357	0452	35035	2778			14916											
		STD	1400	0443	3503	2779	0004706	1358	14919											
		STD	1500	0427	3502	2779	0004662	1404	14929											
146		OBS	1633	0415	35020	2781			14947											

REFERENCE CITY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	HAPSDEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
						10°	1°	MO	DAY	HR. 1/10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	

311304	HM		35011N	047589W	113	57	06	23	101	1968	E13	004	4261	09	25			2	X1	3	6	0004
		WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS										
		COLOR CODE		TRANS. INT.		DIR.		SPEED OR FORCE		DRY BULB		WET BULB		VIS CODE								
								25		509		247		228		217		8		12		

MESSNGR TIME HR. 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - \sigma t/l$	TOTAL-P $\mu g - \sigma t/l$	NO ₃ -N $\mu g - \sigma t/l$	NO ₃ -N $\mu g - \sigma t/l$	SIO ₄ -Si $\mu g - \sigma t/l$	pH	3 C
		STD	0000	2187	3638	2532	0026582	0000	15287								
101		OBS	0000	2187	36384	2532			15287								
		STD	0010	2055	3640	2570	0023049	0025	15254								
		STD	0020	1958	3641	2597	0020561	0047	15230								
101		OBS	0022	1943	36411	2601			15226								
		STD	0030	1923	3644	2608	0019513	0067	15222								
101		OBS	0044	1873	36448	2621			15210								
		STD	0050	1834	3642	2629	0017568	0104	15200								
101		OBS	0065	1762	36367	2643			15181								
		STD	0075	1743	3635	2646	0016018	0146	15177								
101		OBS	0086	1727	36338	2649			15174								
		STD	0100	1722	3634	2651	0015675	0185	15175								
		STD	0125	1708	3635	2655	0015393	0224	15175								
101		OBS	0131	1704	36350	2656			15174								
		STD	0150	1685	3632	2658	0015153	0262	15172								
101		OBS	T0179	1656	36267	2661			15167								
		STD	0200	1638	3625	2664	0014761	0337	15165								
		STD	0250	1585	3617	2670	0014322	0410	15156								
101		OBS	0264	1567	36137	2671			15152								
		STD	0300	1509	3602	2676	0013911	0480	15138								
101		OBS	T0353	1426	35869	2682			15119								
		STD	0400	1354	3576	2689	0012856	0614	15102								
		STD	0500	1203	3557	2704	0011536	0736	15065								
101		OBS	T0528	1162	35524	2709			15055								
		STD	0600	1054	3541	2720	0010191	0845	15027								
		STD	0700	0915	3530	2735	0008803	0940	14992								
101		OBS	0718	0892	35283	2737			14986								
		STD	0800	0791	3523	2749	0007491	1021	14960								
		STD	0900	0679	3521	2763	0006090	1089	14933								
101		OBS	T0904	0675	35207	2764			14932								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE DD-MO-YR	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	STA		TYPE	AMT	
311304	HM		35009N	047593W	113	57	06	24	130	1968	E13	005	4480	44	27	2	3		X1	8	6	0005
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB																	
			24	518	200	222	217	7	20													
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	D ₂ ml/l	PO ₄ -P μg - 01/1	TOTAL-P μg - 01/1	NO ₂ -N μg - 01/1	NO ₃ -N μg - 01/1	SiO ₄ -Si μg - 01/1	pH	S μM					
		STD	0000	2170	3635	2535	0026368	0000	15282													
101		OBS	0000	2170	36351	2535			15282													
		STD	0010	2076	3637	2562	0023806	0025	15259													
		STD	0020	1993	3638	2585	0021654	0048	15239													
		STD	0030	1921	3639	2605	0019826	0069	15221													
101		OBS	0033	1902	36392	2610			15216													
		STD	0050	1814	3638	2631	0017381	0106	15194													
101		OBS	0064	1762	36376	2644			15181													
		STD	0075	1746	3637	2647	0015913	0147	15178													
101		OBS	0097	1717	36369	2654			15173													
		STD	0100	1714	3636	2654	0015360	0186	15172													
		STD	0125	1688	3632	2657	0015138	0225	15168													
101		OBS	0129	1683	36317	2658			15167													
		STD	0150	1653	3626	2661	0014863	0262	15161													
101		OBS	0193	1600	36174	2667			15151													
		STD	0200	1596	3617	2667	0014406	0335	15151													
		STD	0250	1553	3609	2671	0014201	0407	15145													
101		OBS	T0258	1544	36077	2672			15143													
		STD	0300	1470	3593	2677	0013733	0477	15125													
101		OBS	0383	1346	35714	2687			15096													
		STD	0400	1331	3570	2689	0012829	0609	15093													
		STD	0500	1225	3559	2702	0011812	0733	15073													
101		OBS	0510	1213	35580	2703			15070													
		STD	0600	1048	3543	2722	0009938	0841	15025													
		STD	0700	0889	3529	2738	0008445	0933	14982													
101		OBS	T0761	0805	35227	2746			14959													
		STD	0800	0757	3520	2751	0007181	1011	14947													
		STD	0900	0649	3513	2761	0006237	1079	14920													
		STD	1000	0566	3509	2769	0005489	1137	14903													
101		OBS	1018	0553	35080	2770			14901													
		STD	1100	0519	3507	2773	0005113	1190	14901													
		STD	1200	0483	3505	2776	0004887	1240	14902													
101		OBS	T1274	0459	35036	2777			14905													
		STD	1300	0451	3503	2778	0004712	1288	14906													
		STD	1400	0424	3500	2778	0004672	1335	14911													
		STD	1500	0402	3498	2779	0004620	1382	14918													
101		OBS	1597	0387	34967	2780			14928													
		STD	1750	0385	3498	2781	0004613	1497	14953													
101		OBS	T1932	0377	34984	2782			14981													
		STD	2000	0372	3498	2782	0004621	1612	14990													
130		OBS	T2123	0362	34981	2783			15007													
		STD	2500	0330	3497	2785	0004495	1840	15058													
130		OBS	2661	0315	34959	2786			15079													
		STD	3000	0280	3493	2787	0004359	2062	15122													
130		OBS	3200	0263	34923	2788			15149													
		STD	4000	0228	3490	2789	0004289	2494	15274													
130		OBS	T4086	0226	34892	2789			15289													
130		OBS	T4247	0223	34891	2789			15316													
130		OBS	T4366	0225	34891	2789			15338													

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSSEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLING	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NGDC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE		AMT
311304		HM	34585N	04802 W	113	48	06	25	223	1968	E13	006	4480	16	28				5	X1	8	5	0006
					WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
COLOR CODE		TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB																	
					31	516	140	211	194	7	14												
MESSAGE TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T			SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ σ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -Si μg - ml/l	pH				
		STD	0000	2103	3632	2551	0024837			0000	15264												
223		OBS	0000	2103	36319	2551					15264												
		STD	0010	2091	3632	2554	0024543			0025	15263												
		STD	0020	2078	3632	2558	0024250			0049	15261												
223		OBS	0028	2068	36322	2561					15260												
		STD	0030	2048	3633	2567	0023450			0073	15255												
		STD	0050	1882	3637	2613	0019089			0115	15213												
223		OBS	0055	1851	36375	2621					15205												
		STD	0075	1770	3636	2640	0016575			0160	15185												
223		OBS	0082	1751	36352	2645					15180												
		STD	0100	1732	3635	2649	0015848			0201	15178												
223		OBS	0108	1720	36338	2651					15175												
		STD	0125	1684	3630	2657	0015193			0239	15167												
223		OBS	0132	1671	36282	2658					15164												
		STD	0150	1660	3626	2659	0015021			0277	15163												
		STD	0200	1621	3620	2664	0014744			0352	15159												
223		OBS	T0216	1607	36181	2666					15157												
		STD	0250	1573	3613	2670	0014348			0424	15152												
		STD	0300	1516	3603	2675	0013989			0495	15141												
223		OBS	0321	1489	35992	2678					15135												
		STD	0400	1371	3580	2688	0012911			0630	15108												
223		OBS	T0421	1338	35753	2692					15100												
		STD	0500	1193	3556	2706	0011419			0751	15061												
		STD	0600	1029	3538	2722	0009967			0858	15018												
223		OBS	T0625	0991	35344	2725					15008												
		STD	0700	0882	3529	2739	0008329			0950	14979												
		STD	0800	0761	3523	2753	0007023			1026	14949												
223		OBS	0832	0728	35214	2757					14941												
		STD	0900	0673	3520	2763	0006075			1092	14931												
		STD	1000	0607	3518	2771	0005407			1149	14921												
223		OBS	T1041	0584	35169	2773					14918												
		STD	1100	0568	3516	2774	0005133			1202	14922												
		STD	1200	0540	3515	2777	0004938			1252	14927												
		STD	1300	0508	3512	2778	0004830			1301	14930												
223		OBS	1311	0504	35115	2778					14930												
		STD	1400	0473	3508	2779	0004749			1349	14932												
		STD	1500	0435	3504	2780	0004624			1396	14933												
223		OBS	T1583	0401	34992	2780					14932												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE MO DAY	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.					TG	1'	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311304	HM	35032N	047581W	113	57	06	26	101	1968	E13	007	4334	14	29	3	3		X1	8	2	0007
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WATER		WIND		BARO- METER (mbal)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		33	507	180	206	172	8	14	

		33	507	180	206	172	8	14	
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MESSENGER TIME OF HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ O DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C
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		STD	0000	2097	3641	2559	0024038	0000	15264								
101		OBS	0000	2097	36408	2559			15264								
		STD	0010	2072	3640	2565	0023486	0024	15259								
		STD	0020	2026	3639	2577	0022417	0047	15248								
101		OBS	0022	2015	36389	2580			15245								
		STD	0030	1936	3639	2601	0020218	0068	15225								
101		OBS	0045	1826	36384	2628			15196								
		STD	0050	1804	3636	2632	0017289	0106	15191								
101		OBS	0067	1751	36329	2643			15178								
		STD	0075	1745	3635	2646	0016064	0147	15177								
101		OBS	0089	1734	36365	2650			15177								
		STD	0100	1726	3636	2651	0015636	0187	15176								
		STD	0125	1703	3634	2655	0015336	0226	15173								
101		OBS	0134	1693	36321	2656			15171								
		STD	0150	1669	3628	2659	0015080	0264	15166								
101		OBS	T0180	1626	36204	2663			15157								
		STD	0200	1599	3616	2666	0014545	0338	15152								
		STD	0250	1530	3605	2673	0013992	0409	15137								
101		OBS	0267	1507	36011	2675			15132								
		STD	0300	1463	3594	2680	0013513	0478	15123								
101		OBS	T0356	1384	35812	2687			15105								
		STD	0400	1307	3570	2694	0012350	0607	15085								
		STD	0500	1143	3548	2709	0011065	0724	15043								
101		OBS	T0528	1100	35432	2713			15032								
		STD	0600	0989	3535	2726	0009488	0827	15003								
		STD	0700	0859	3526	2741	0008174	0915	14970								
101		OBS	0710	0847	35256	2742			14967								
		STD	0800	0763	3525	2755	0006907	0991	14950								
101		OBS	T0897	0682	35225	2764			14934								
		STD	0900	0679	3522	2764	0006017	1055	14933								
		STD	1000	0600	3515	2769	0005527	1113	14918								
		STD	1100	0540	3511	2774	0005108	1166	14910								
101		OBS	1140	0521	35092	2774			14908								
		STD	1200	0499	3509	2777	0004818	1216	14909								
		STD	1300	0477	3509	2779	0004659	1263	14917								
101		OBS	T1393	0475	35080	2779			14932								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDEX	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH S'MPL'S	WAVE OBSERVATIONS				WEA- TER CODE	CLOUD CODES		NOOC STATION NUMBER
CRUISE CODE	ID. NO.					10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE	
311304	HM	35008N	047589W	113	57	06	27	071	1968	E13	008	4426	44					X1	0	1		0008

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB			
		25	513	220	217	206	8	21	

MESSAGE	CARD	DEPTH	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME	Δ ρ	SOUND	O ₂ ml/l	PO ₂ -P	TOTAL-P	NO ₂ -N	NO ₃ -N	SiO ₄ -Si	pH	CO ₂
TIME	TYPE	(m)				ANOMALY-σ _t	ρ ₀ - 10 ³	VELOCITY		μg - σ _t /l	μg - σ _t /l	μg - σ _t /l	μg - σ _t /l	μg - σ _t /l		
	STD	0000	2092	3636	2557	0024241	0000	15262								
071	OBS	0000	2092	36362	2557			15262								
	STD	0010	2080	3636	2560	0023984	0024	15260								
	STD	0020	2068	3636	2563	0023731	0048	15259								
071	OBS	0023	2064	36355	2564			15258								
	STD	0030	2006	3638	2582	0022019	0071	15244								
071	OBS	0048	1880	36403	2616			15212								
	STD	0050	1867	3640	2619	0018507	0111	15209								
071	OBS	0072	1764	36356	2642			15183								
	STD	0075	1760	3636	2643	0016341	0155	15182								
071	OBS	0095	1736	36373	2650			15178								
	STD	0100	1729	3637	2651	0015633	0195	15177								
	STD	0125	1697	3634	2657	0015199	0233	15171								
071	OBS	0143	1676	36310	2659			15168								
	STD	0150	1670	3630	2660	0014957	0271	15167								
071	OBS	T0192	1627	36227	2665			15160								
	STD	0200	1616	3621	2666	0014559	0345	15158								
	STD	0250	1544	3608	2672	0014077	0417	15142								
071	OBS	0287	1485	35974	2677			15128								
	STD	0300	1459	3593	2680	0013501	0485	15121								
071	OBS	T0384	1305	35666	2692			15082								
	STD	0400	1282	3564	2694	0012294	0614	15076								
	STD	0500	1140	3549	2710	0010936	0731	15042								
071	OBS	T0569	1041	35396	2721			15017								
	STD	0600	0989	3535	2726	0009488	0833	15003								
	STD	0700	0839	3522	2741	0008145	0921	14962								
071	OBS	0766	0757	35162	2749			14941								
	STD	0800	0722	3515	2753	0007015	0997	14933								
	STD	0900	0632	3513	2763	0005991	1062	14914								
071	OBS	T0966	0585	35113	2768			14906								
	STD	1000	0570	3511	2770	0005398	1119	14905								
	STD	1100	0529	3509	2773	0005103	1171	14905								
	STD	1200	0494	3507	2776	0004889	1221	14907								
071	OBS	1215	0489	35067	2776			14908								
	STD	1300	0465	3504	2777	0004826	1270	14912								
	STD	1400	0440	3502	2778	0004739	1318	14918								
071	OBS	T1472	0424	35004	2779			14923								
	STD	1500	0421	3500	2779	0004728	1365	14926								
	STD	1750	0396	3500	2781	0004617	1482	14958								
	STD	2000	0373	3499	2783	0004584	1597	14991								
071	OBS	T2026	0371	34988	2783			14994								
	STD	2500	0336	3497	2785	0004582	1826	15060								
071	OBS	2640	0321	34960	2786			15078								
071	OBS	T2999	0273	34931	2788			15119								
	STD	3000	0273	3493	2788	0004254	2047	15119								
071	OBS	T3548	0234	34908	2789			15198								
	STD	4000	0224	3490	2789	0004193	2469	15273								
071	OBS	4062	0223	34894	2789			15283								
071	OBS	T4326	0224	34888	2788			15330								
071	OBS	4425	0224	34888	2788			15348								

REFERENCE		SHIP CODE	LATITUDE " 1/10	LONGITUDE " 1/10	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S				WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	IO. NO.					10"	1"	MO	OAY		HR, 1/10	CRUISE NO.		STATION NUMBER	DIR	HGT	PER	SEA	TYPE	AMT					
311304		HM	35017N	047585W		113	57	06	28	101	1968	E13	009	4279	15	29	2	3			X1	6	7	0009	
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB													
								27	S14	193	222	211	8	14											
MISSING TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta \sigma$ OYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₂ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SIO ₄ -Si $\mu g \cdot dl/l$	pH	S C							
		STD	0000	2103	3635	2553	0024592		0000	15265															
101	OBS	0000	2103	36353	2553					15265															
	STD	0010	2081	3637	2560	0023964	0024		15261																
	STD	0020	2059	3638	2567	0023341	0048		15257																
101	OBS	0025	2048	36385	2571					15255															
	STD	0030	1985	3637	2586	0021562	0070		15238																
101	OBS	0048	1823	36337	2626					15195															
	STD	0050	1818	3634	2627	0017767	0110		15194																
101	OBS	0073	1762	36361	2643					15182															
	STD	0075	1758	3636	2643	0016294	0152		15181																
101	OBS	0096	1720	36342	2651					15173															
	STD	0100	1719	3634	2652	0015605	0192		15174																
	STD	0125	1708	3634	2654	0015466	0231		15174																
101	OBS	0143	1696	36336	2657					15174															
	STD	0150	1690	3633	2658	0015195	0269		15173																
101	OBS	T0192	1646	36251	2662					15166															
	STD	0200	1634	3623	2663	0014817	0344		15163																
	STD	0250	1555	3610	2671	0014172	0417		15146																
101	OBS	0287	1492	35987	2677					15131															
	STD	0300	1465	3594	2679	0013555	0486		15123																
101	OBS	0382	1312	35674	2691					15084															
	STD	0400	1288	3565	2694	0012339	0616		15078																
	STD	0500	1151	3549	2708	0011140	0733		15046																
101	OBS	T0572	1047	35392	2719					15020															
	STD	0600	0994	3535	2725	0009575	0837		15005																
	STD	0700	0830	3522	2742	0008001	0924		14959																
101	OBS	0772	0734	35152	2751					14933															
	STD	0800	0706	3514	2754	0006849	0999		14926																
	STD	0900	0618	3512	2764	0005864	1062		14908																
101	OBS	T0977	0564	35096	2770					14899															
	STD	1000	0554	3509	2770	0005323	1118		14899																
	STD	1100	0514	3507	2774	0005045	1170		14899																
	STD	1200	0482	3505	2776	0004874	1220		14902																
101	OBS	1243	0470	35040	2776					14904															
	STD	1300	0457	3503	2777	0004792	1268		14908																
	STD	1400	0439	3502	2778	0004726	1316		14917																
	STD	1500	0430	3502	2779	0004703	1363		14930																
101	OBS	T1512	0429	35017	2779					14932															

[illegible]

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE MO DAY HR.1/10	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE NO.	ID NO.								CRUISE NO.	STATION NUMBER			DIR	HGT	PER		TPP	AMT	

311304	HM	35016N	048002W	113	58	07	01	099	1968	E13	012	4426	44	09	2	3	X1	4	2	0012
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
		COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE	IMBET	DRY BULB	WET BULB	VIS CODE											

MESSNGR TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \rho$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₂ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SiO ₄ -Si $\mu g \cdot dl/l$	pH	S C/C
		STD	0000	2108	3634	2551	0024830	0000	15266								
099		OBS	0000	2108	36338	2551			15266								
		STD	0010	2097	3634	2554	0024558	0025	15265								
		STD	0020	2086	3635	2557	0024794	0049	15264								
099		OBS	0025	2081	36347	2559			15263								
		STD	0030	2007	3635	2579	0022262	0072	15244								
		STD	0050	1800	3635	2632	0017252	0112	15189								
099		OBS	0050	1800	36352	2632			15189								
		STD	0075	1741	3634	2646	0016073	0154	15176								
099		OBS	0075	1741	36336	2646			15176								
099		OBS	0099	1722	36340	2651			15174								
		STD	0100	1721	3634	2651	0015666	0193	15174								
		STD	0125	1691	3631	2656	0015279	0232	15169								
		STD	0150	1662	3627	2660	0014979	0270	15164								
099		OBS	0150	1662	36272	2660			15164								
		STD	0200	1605	3618	2666	0014525	0344	15154								
099		OBS	T0200	1605	36181	2666			15154								
		STD	0250	1516	3602	2674	0013908	0415	15132								
		STD	0300	1440	3590	2681	0013357	0483	15115								
099		OBS	0300	1440	35895	2681			15115								
		STD	0400	1329	3575	2693	0012462	0612	15093								
099		OBS	T0401	1328	35743	2693			15093								
		STD	0500	1173	3553	2707	0011260	0730	15054								
099		OBS	T0595	1026	35370	2721			15016								
		STD	0600	1016	3536	2722	0009884	0836	15013								
		STD	0700	0845	3523	2741	0008168	0926	14964								
		STD	0800	0711	3514	2753	0006938	1002	14928								
099		OBS	0800	0711	35138	2753			14928								
		STD	0900	0624	3511	2763	0006024	1067	14910								
		STD	1000	0556	3509	2770	0005358	1124	14899								
099		OBS	T1000	0556	35089	2770			14899								
		STD	1100	0517	3507	2773	0005086	1176	14900								
		STD	1200	0486	3506	2776	0004854	1226	14904								
099		OBS	1251	0473	35052	2777			14907								
		STD	1300	0465	3505	2778	0004753	1274	14912								
		STD	1400	0450	3504	2779	0004728	1321	14922								
		STD	1500	0436	3504	2780	0004675	1368	14933								
099		OBS	1500	0436	35035	2780			14933								
		STD	1750	0402	3501	2781	0004627	1484	14961								
		STD	2000	0372	3499	2783	0004570	1599	14990								
142		OBS	T2012	0371	34988	2783			14992								
		STD	2500	0328	3497	2786	0004451	1825	15057								
142		OBS	2522	0326	34971	2786			15060								
		STD	3000	0288	3494	2787	0004388	2046	15126								
142		OBS	T3032	0285	34941	2787			15130								
142		OBS	T3523	0242	34911	2789			15197								
		STD	4000	0226	3490	2789	0004221	2476	15274								
142		OBS	T4033	0225	34897	2789			15279								
142		OBS	T4293	0223	34893	2789			15324								
142		OBS	T4395	0225													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARSOEN SQUARE		STATION TIME IGMT		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAT. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER							
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TYPE		AMT						
311304	HM	35016N	047587W	113	57	07	02	100	1968	E13	013	4279	15	27				2	X1	8	1	0013							
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS													
						COLOR CODE	TRANS. mm	DIR.	SPEED OR FORCE	METER (mbars)		DRY BULB	WET BULB																
										27	515	227	217					206	8	14									
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ ρ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	Si O ₄ -Si μg - at/l	pH	S C											
		STD	0000	2140	3633	2542	0025697		0000	15274																			
100		OBS	0000	2140	36334	2542				15274																			
		STD	0010	2121	3633	2547	0025249		0025	15271																			
		STD	0020	2102	3633	2552	0024792		0050	15267																			
100		OBS	0023	2096	36330	2554				15266																			
		STD	0030	1976	3633	2586	0021612		0074	15235																			
100		OBS	0045	1798	36335	2632				15188																			
		STD	0050	1782	3634	2636	0016915		0112	15184																			
100		OBS	0069	1737	36343	2647				15174																			
		STD	0075	1730	3634	2649	0015767		0153	15173																			
100		OBS	0091	1713	36342	2653				15170																			
		STD	0100	1705	3633	2654	0015371		0192	15169																			
		STD	0125	1682	3630	2657	0015147		0230	15166																			
100		OBS	0140	1666	36279	2659				15164																			
		STD	0150	1654	3626	2661	0014886		0268	15161																			
100		OBS	T0194	1601	36170	2666				15151																			
		STD	0200	1593	3616	2667	0014412		0341	15150																			
		STD	0250	1526	3604	2673	0013978		0412	15136																			
100		OBS	0281	1486	35979	2677				15128																			
		STD	0300	1465	3594	2679	0013555		0481	15123																			
100		OBS	T0379	1366	35791	2689				15103																			
		STD	0400	1332	3574	2692	0012558		0611	15094																			
		STD	0500	1173	3552	2706	0011333		0731	15054																			
100		OBS	T0574	1055	35383	2717				15023																			
		STD	0600	1003	3534	2723	0009804		0836	15008																			
		STD	0700	0833	3521	2741	0008122		0926	14960																			
100		OBS	0771	0742	35155	2750				14936																			
		STD	0800	0723	3516	2753	0006971		1002	14933																			
		STD	0900	0660	3517	2763	0006111		1067	14925																			
100		OBS	T0967	0622	35177	2768				14921																			
		STD	1000	0604	3517	2770	0005437		1125	14920																			
		STD	1100	0554	3514	2774	0005083		1177	14916																			
		STD	1200	0509	3511	2777	0004801		1227	14914																			
100		OBS	1219	0501	35100	2777				14914																			
		STD	1300	0469	3507	2779	0004660		1274	14914																			
		STD	1400	0433	3502	2779	0004646		1321	14915																			
100		OBS	T1479	0408	34981	2778				14917																			

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSDEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER	
CITY CODE	ID. NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE
311304		HM	35006N	047599W	113	57	07	03	101	1968	E13	014	4297	14	29	2	2		X1	8	4	0014
		WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS										
		COLOR CODE	TRANS. UNIT	DIR.	SPEED OR FORCE			DRY BULB	WET BULB													
				22	504	264		222	217	7	14											
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DTN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH						
		STD	0000	2178	3633	2531	0026747	0000	15284													
101		OBS	0000	2178	36328	2531			15284													
		STD	0010	2166	3632	2533	0026524	0027	15282													
		STD	0020	2130	3632	2543	0025612	0053	15275													
101		OBS	0024	2109	36317	2549			15270													
		STD	0030	2048	3633	2567	0023450	0077	15255													
101		OBS	0049	1889	36342	2609			15214													
		STD	0050	1882	3634	2611	0019306	0120	15213													
101		OBS	0073	1766	36330	2639			15183													
		STD	0075	1763	3633	2640	0016614	0165	15182													
101		OBS	0097	1732	36353	2649			15177													
		STD	0100	1730	3635	2649	0015801	0205	15177													
		STD	0125	1714	3635	2653	0015517	0245	15176													
101		OBS	0146	1696	36330	2656			15174													
		STD	0150	1692	3632	2656	0015313	0283	15174													
101		OBS	T0196	1638	36243	2663			15164													
		STD	0200	1632	3623	2664	0014772	0358	15163													
		STD	0250	1556	3610	2671	0014193	0431	15146													
101		OBS	0292	1496	35998	2677			15133													
		STD	0300	1487	3598	2677	0013731	0501	15131													
101		OBS	T0387	1371	35804	2689			15106													
		STD	0400	1343	3576	2691	0012634	0632	15098													
		STD	0500	1148	3549	2709	0011085	0751	15045													
101		OBS	T0575	1019	35341	2720			15009													
		STD	0600	0978	3531	2725	0009592	0854	14998													
		STD	0700	0837	3521	2740	0008186	0943	14961													
101		OBS	0772	0756	35172	2749			14942													
		STD	0800	0736	3518	2753	0007007	1019	14939													
		STD	0900	0668	3520	2764	0006001	1084	14929													
101		OBS	T0966	0628	35202	2770			14924													
		STD	1000	0608	3519	2771	0005348	1141	14922													
		STD	1100	0555	3515	2775	0005023	1193	14916													
		STD	1200	0510	3511	2777	0004814	1242	14914													
101		OBS	1209	0506	35104	2777			14914													
		STD	1300	0473	3507	2778	0004715	1290	14915													
		STD	1400	0444	3504	2779	0004647	1336	14920													
101		OBS	T1450	0432	35026	2779			14923													

REFERENCE CRUISE NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARSSEN SQUARE		STATION TIME IGMT			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NDDC STATION NUMBER			
					10'	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT				
311304	HM	35025N	047595W		113	57	07	04	108	1968	E13	015	4297	15	28	1	2		X1	8	6		0015		
					WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB														
								00		500	278					233	222	7	14						
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t × 10 ³		Σ Δ D DYN. M. × 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -Si μg - ml/l	pH	3 C						
		STD	0000	2226	3633	2517		0028033		0000	15296														
108		OBS	0000	2226	36328	2517					15296														
		STD	0010	2196	3632	2525		0027323		0028	15290														
		STD	0020	2146	3632	2539		0026033		0054	15279														
108		OBS	0024	2120	36317	2546					15273														
		STD	0030	2052	3632	2565		0023625		0079	15256														
108		OBS	0049	1885	36321	2609					15213														
		STD	0050	1880	3632	2610		0019388		0122	15212														
108		OBS	0074	1781	36334	2636					15188														
		STD	0075	1779	3634	2637		0016931		0168	15187														
108		OBS	0098	1742	36370	2648					15180														
		STD	0100	1740	3637	2649		0015888		0209	15180														
		STD	0125	1712	3634	2653		0015543		0248	15176														
108		OBS	0148	1682	36307	2658					15170														
		STD	0150	1679	3630	2658		0015162		0286	15169														
108		OBS	0196	1604	36182	2666					15153														
		STD	0200	1599	3617	2667		0014472		0360	15152														
		STD	0250	1536	3606	2673		0014049		0432	15139														
108		OBS	0296	1478	35959	2678					15127														
		STD	0300	1474	3595	2678		0013673		0501	15126														
		STD	0400	1345	3577	2691		0012601		0632	15099														
108		OBS	T0413	1326	35749	2694					15094														
		STD	0500	1167	3553	2708		0011147		0751	15052														
108		OBS	T0592	1008	35340	2722					15008														
		STD	0600	0991	3532	2724		0009742		0856	15003														
		STD	0700	0811	3518	2742		0007994		0944	14951														
108		OBS	0793	0695	35108	2753					14921														
		STD	0800	0692	3511	2754		0006862		1019	14921														
		STD	0900	0650	3517	2764		0005957		1083	14921														
108		OBS	T0994	0613	35191	2771					14923														
		STD	1000	0611	3519	2771		0005391		1139	14923														
		STD	1100	0579	3513	2770		0005509		1194	14926														
		STD	1200	0542	3508	2771		0005479		1249	14927														
108		OBS	1245	0524	35061	2772					14927														
		STD	1300	0501	3504	2773		0005318		1303	14926														
		STD	1400	0456	3501	2775		0005029		1354	14924														
108		OBS	T1494	0410	34989	2779					14921														

REFERENCE	SHIP	LATITUDE	LONGITUDE	DATE	WARSSEN	STATION TIME	YEAR	ORIGINATOR	DEPTH	WAVE	WAVE	CLOUD	NOOD																																																								
STATION	CODE			TIME	SQUARE	GMT		NO.	NO.	OBSERVATIONS	TYPE	CODES	STATION																																																								
NO.													NUMBER																																																								
511304	HM	3502N	04800W	113 58 07 05	100	1968		E13 016	4279	10	10		0016																																																								
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WATER		WIND		BARO		AIR TEMP		SEA		NO.		SPECIAL																																																									
CODE	TEMP	DIR	SPED	TEMP	TEMP	TEMP	TEMP	TEMP	TEMP	TEMP	TEMP	TEMP	TEMP																																																								
NO.																																																																					
11	57.6			291	244	217	7	12																																																													
MESSAGE	CAST	CARD	DEPTH																																																																		
NO.																																																																					
100	0510	0000	2273	3642	2511	0028661	0000	15309																																																													
100	0510	0000	2273	36418	2511			15309																																																													
100	0510	0000	2183	3641	2526	0026326	0027	15288																																																													
100	0510	0000	2102	3640	2557	0024302	0053	15268																																																													
100	0510	0000	2055	36387	2566			15250																																																													
100	0510	0000	2034	3637	2573	0022803	0076	15252																																																													
100	0510	0000	1917	3633	2601	0010227	0119	15222																																																													
100	0510	0000	1917	36331	2601			15222																																																													
100	0510	0000	1786	3632	2633	0017317	0166	15189																																																													
100	0510	0000	1789	36316	2633			15189																																																													
100	0510	0000	1743	3633	2645	0016245	0208	15181																																																													
100	0510	0000	1743	36330	2645			15181																																																													
100	0510	0000	1734	3634	2647	0016088	0249	15182																																																													
100	0510	0000	1711	3634	2653	0015504	0288	15179																																																													
100	0510	0000	1711	36340	2653			15179																																																													
100	0510	0000	1624	3622	2665	0014565	0364	15160																																																													
100	0510	0000	1621	36213	2665			15159																																																													
100	0510	0000	1557	3610	2671	0014215	0436	15146																																																													
100	0510	0000	1491	3599	2677	0013743	0506	15132																																																													
100	0510	0000	1491	35983	2677			15132																																																													
100	0510	0000	1363	35783	2680			15105																																																													
100	0510	0000	1359	3578	2680	0012812	0539	15104																																																													
100	0510	0000	1175	3552	2706	0011370	0760	15065																																																													
100	0510	0000	1006	3533	2721	0009966	0856	15029																																																													
100	0510	0000	1006	35325	2721			15029																																																													
100	0510	0000	0841	3524	2742	0008067	0957	14963																																																													
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100	0510	0000	0626	3514	2765	0005846	1095	14911																																																													
100	0510	0000	0575	3513	2771	0005313	1151	14908																																																													
100	0510	0000	0574	35131	2771			14908																																																													

REFERENCE	SHIP	LATITUDE	LONGITUDE	MARS DEN	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES	NOOC STATION NUMBER
					10°	1°	MO DAY HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		

311304	HM	35021N	048001W	113	58	07	07 100	1968	E13	018	4361	15	12			1	X1	8 6	0018
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MESSENGER	CAST	CARO	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P	TOTAL-P	NO ₂ -N	NO ₃ -N	SiO ₄ -Si	pH	S

TIME	NO.	TYPE	TIME	TEMP	SAL	SIGMA-T	ANOMALY	VELOCITY	O ₂	PO ₄	TOTAL-P	NO ₂	NO ₃	SiO ₄	pH	S
HR 1/10										μg · dl/l	μg · dl/l	μg · dl/l	μg · dl/l	μg · dl/l		

100		STO	0000	235.9	3652	2493	0030343	0000	15332							
		OBS	0000	235.9	36515	2493			15332							
		STO	0010	2241	3644	2521	0027669	0029	15303							
		STO	0020	2137	3639	2547	0025290	0055	15277							
100		OBS	0026	2082	36372	2561			15264							
		STO	0030	2051	3639	2570	0023093	0080	15256							
		STO	0050	1913	3642	2609	0019484	0122	15222							
100		OBS	0051	1907	36424	2611			15221							
		STO	0075	1782	3639	2640	0016610	0167	15189							
100		OBS	0077	1775	36391	2642			15187							
		STO	0100	1744	3638	2648	0015908	0208	15182							
100		OBS	0102	1742	36379	2649			15181							
		STO	0125	1724	3636	2652	0015675	0247	15179							
		STO	0150	1705	3634	2655	0015466	0286	15178							
100		OBS	0153	1703	36334	2655			15178							
		STO	0200	1671	3629	2659	0015217	0363	15175							
100		OBS	T0205	1667	36287	2660			15175							
		STO	0250	1618	3621	2665	0014765	0438	15166							
		STO	0300	1551	3610	2672	0014240	0511	15153							
100		OBS	0307	1541	36082	2673			15150							
		STO	0400	1379	3579	2686	0013147	0648	15110							
100		OBS	T0410	1362	35762	2687			15106							
		STO	0500	1223	3557	2701	0011919	0773	15072							
		STO	0600	1065	3540	2717	0010461	0885	15031							
100		OBS	T0611	1047	35388	2719			15026							
		STO	0700	0875	3529	2740	0008215	0978	14976							
		STO	0800	0732	3521	2756	0006726	1053	14937							
100		OBS	0809	0722	35206	2757			14935							
		STO	0900	0669	3520	2764	0006008	1117	14929							
		STO	1000	0614	3520	2771	0005397	1174	14924							
100		OBS	T1007	0610	35195	2771			14924							
		STO	1100	0561	3516	2775	0005034	1226	14919							
		STO	1200	0515	3512	2777	0004810	1275	14916							
100		OBS	1271	0485	35091	2779			14916							
		STO	1300	0474	3508	2779	0004655	1322	14916							
		STO	1400	0438	3504	2780	0004566	1368	14917							
		STO	1500	0409	3500	2780	0004567	1414	14921							
100		OBS	T1539	0399	34981	2779			14924							

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARSSEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	MO	DAY	HR.1/10	CRUISE NO.		STATION NUMBER	DIR			HGT	PER	SEA	TYPE		AMT		
311304	HM	35022N	047587W	113	57	07	08	100	1968	E13	019	4297	42	15					2	X1	8	2	0019
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS								
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB													
								17	S07	278	244	222	7	21									

MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S Δ D CTW, M, x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -Si μg - ml/l	pH	1 C
		STD	0000	2382	3655	2488	0030774	0000	15337								
100		OBS	0000	2382	36545	2488			15337								
		STD	0010	2230	3648	2528	0027083	0029	15301								
		STD	0020	2108	3643	2558	0024241	0055	15270								
100		OBS	0025	2059	36416	2570			15258								
		STD	0030	2036	3642	2576	0022521	0078	15253								
		STD	0050	1930	3642	2604	0019917	0120	15227								
100		OBS	0050	1930	36418	2604			15227								
		STD	0075	1769	3636	2640	0016580	0166	15184								
100		OBS	0075	1769	36356	2640			15184								
100		OBS	0099	1740	36349	2647			15180								
		STD	0100	1740	3635	2647	0016033	0207	15180								
		STD	0125	1738	3637	2649	0015926	0247	15184								
100		OBS	0149	1729	36378	2652			15185								
		STD	0150	1728	3638	2652	0015728	0286	15185								
100		OBS	T0199	1692	36334	2657			15182								
		STD	0200	1691	3633	2657	0015384	0364	15182								
		STD	0250	1629	3621	2663	0015011	0440	15170								
100		OBS	0299	1557	36088	2670			15154								
		STD	0300	1555	3609	2670	0014436	0514	15154								
100		OBS	T0397	1380	35813	2687			15110								
		STD	0400	1375	3580	2688	0012993	0651	15109								
		STD	0500	1198	3555	2704	0011587	0774	15063								
100		OBS	T0589	1049	35371	2717			15023								
		STD	0600	1028	3535	2720	0010168	0883	15017								
		STD	0700	0858	3522	2738	0008451	0976	14969								
100		OBS	0786	0747	35160	2750			14940								
		STD	0800	0737	3516	2751	0007161	1054	14939								
		STD	0900	0669	3517	2762	0006221	1121	14929								
100		OBS	T0984	0615	35181	2770			14922								
		STD	1000	0603	3517	2770	0005423	1179	14919								
		STD	1100	0538	3511	2774	0005080	1231	14909								
		STD	1200	0486	3506	2776	0004854	1281	14904								
100		OBS	1232	0473	35045	2776			14904								
		STD	1300	0456	3503	2777	0004779	1329	14908								
		STD	1400	0434	3501	2778	0004732	1377	14915								
100		OBS	1477	0419	34997	2779			14922								
		STD	1500	0417	3500	2779	0004696	1424	14925								
		STD	1750	0393	3499	2781	0004620	1540	14957								
144		OBS	T1999	0369	34991	2783			14989								
		STD	2000	0369	3499	2783	0004519	1655	14989								
		STD	2500	0323	3496	2785	0004463	1879	15055								
144		OBS	2504	0323	34961	2785			15055								
		STD	3000	0279	3494	2788	0004273	2098	15122								
144		OBS	T3008	0278	34936	2788			15123								
144		OBS	T3501	0253	34917	2788			15198								
		STD	4000	0226	3490	2789	0004219	2522	15273								
144		OBS	T4016	0225	34897	2789			15276								
144		OBS	4249	0224	34892	2789			15317								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT INCHES	MARS SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CITY CODE	ID. NO.						CRUISE NO.	STATION NUMBER	10"	1"		MO	OAT			HR.1/10	DIR	HGT	PER		SEA	TYPE	
311304		HM	35024N	048008W	113	58	07	09	100	1968	E13	020	4334	14	15	2	3		X1	8	3		0020
						WATER		WIND		BARO-		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mbars)		DRY BULB	WET BULB										
								21	510	270		250	228	8	14								

MESSAGE TIME OF HR. 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S. Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C
		STD	0000	2377	3654	2489	0030705	0000	15336								
100		OBS	0000	2377	36535	2489			15336								
		STD	0010	2346	3653	2498	0029911	0030	15330								
		STD	0020	2286	3651	2514	0028433	0059	15317								
100		OBS	0023	2262	36507	2520			15311								
		STD	0030	2165	3648	2546	0025419	0086	15287								
100		OBS	0048	1964	36410	2595			15236								
		STD	0050	1947	3640	2599	0020469	0132	15231								
100		OBS	0071	1813	36347	2629			15196								
		STD	0075	1805	3635	2631	0017494	0180	15195								
100		OBS	0094	1771	36349	2639			15188								
		STD	0100	1764	3635	2641	0016593	0222	15187								
		STD	0125	1739	3635	2647	0016095	0263	15184								
100		OBS	0142	1724	36351	2651			15182								
		STD	0150	1721	3635	2652	0015762	0303	15183								
100		OBS	T0189	1695	36339	2657			15181								
		STD	0200	1682	3631	2658	0015323	0381	15179								
		STD	0250	1617	3619	2664	0014888	0456	15166								
100		OBS	0281	1570	36111	2669			15155								
		STD	0300	1536	3605	2672	0014276	0529	15147								
100		OBS	T0369	1413	35854	2684			15117								
		STD	0400	1360	3577	2688	0012905	0665	15104								
		STD	0500	1191	3554	2704	0011527	0787	15060								
100		OBS	T0551	1106	35440	2713			15038								
		STD	0600	1012	3536	2723	0009815	0894	15011								
		STD	0700	0855	3524	2740	0008256	0984	14968								
100		OBS	0735	0811	35215	2745			14957								
		STD	0800	0763	3522	2752	0007105	1061	14950								
		STD	0900	0691	3524	2764	0006085	1127	14938								
100		OBS	T0922	0675	35238	2766			14936								
		STD	1000	0613	3518	2770	0005493	1185	14923								
		STD	1100	0547	3512	2774	0005132	1238	14913								
100		OBS	1161	0515	35094	2775			14910								
		STD	1200	0498	3508	2776	0004870	1288	14909								
		STD	1300	0465	3505	2778	0004753	1336	14912								
100		OBS	1394	0449	35035	2778			14921								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSOEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CHIT CODE	ID. NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE	AMT
311304	HM		35038N	048001W	113	58	07	10	100	1968	E13	021	4224	14	22		2	Y1	8	6	0021		
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mb)		DRY BULB	WET BULB	MOD.													
						21	512	271	239	222	7	14											
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ ρ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₂ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C						
		STD	0000	2372	3651	2489	0030744	0000	15335														
100		OBS	0000	2372	36510	2489			15335														
		STD	0010	2346	3651	2496	0030103	0030	15330														
		STD	0020	2321	3650	2503	0029466	0060	15325														
100		OBS	0025	2308	36498	2507			15323														
		STD	0030	2236	3647	2525	0027396	0089	15305														
100		OBS	0049	2023	36402	2579			15252														
		STD	0050	2017	3640	2580	0022228	0138	15251														
		STD	0075	1886	3637	2612	0019268	0190	15218														
100		OBS	0075	1886	36371	2612			15218														
		STD	0100	1772	3635	2639	0016816	0235	15189														
100		OBS	0100	1772	36345	2639			15189														
		STD	0125	1750	3636	2645	0016278	0277	15187														
100		OBS	0149	1733	36362	2650			15186														
		STD	0150	1733	3636	2650	0015968	0317	15186														
100		OBS	T0199	1710	36355	2655			15187														
		STD	0200	1709	3635	2655	0015653	0396	15187														
		STD	0250	1656	3626	2660	0015258	0473	15178														
100		OBS	0295	1593	36148	2666			15165														
		STD	0300	1584	3613	2667	0014748	0548	15163														
100		OBS	T0390	1414	35856	2684			15121														
		STD	0400	1389	3582	2686	0013135	0688	15114														
		STD	0500	1161	3550	2707	0011254	0810	15049														
100		OBS	T0580	1007	35314	2720			15006														
		STD	0600	0973	3528	2724	0009726	0915	14996														
		STD	0700	0826	3516	2738	0008378	1005	14956														
100		OBS	0767	0745	35118	2747			14936														
		STD	0800	0715	3512	2751	0007130	1083	14930														
		STD	0900	0636	3513	2763	0006049	1148	14915														
100		OBS	0950	0601	35132	2768			14910														
		STD	1000	0572	3512	2770	0005352	1205	14906														
		STD	1100	0521	3509	2774	0004994	1257	14902														
100		OBS	1176	0490	35072	2777			14902														
		STD	1200	0481	3507	2777	0004714	1306	14902														
		STD	1300	0452	3504	2778	0004652	1353	14906														
		STD	1400	0432	3501	2778	0004705	1399	14914														
100		OBS	T1401	0432	35008	2778			14914														

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARSOEN SQUARE		STATION TIME IGMT		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10'	1'	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TYPE	
311304	HM	35006N	047596W	113	57	07	11	100	1968	E13	022	4279	15	26	1	3		Y1	2	3	0022
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mbal)		DRY BULB	WET BULB									
							26		506	268	233	211	7	13							
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ ρ OYN. M. X 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₃ -N μg - at/l	NO ₂ -N μg - at/l	SiO ₄ -Si μg - at/l	pH		
		STD	0000	2445	3648	2465		0033013		0000		15352									
100		OBS	0000	2445	36483	2465						15352									
		STD	0010	2358	3647	2490		0030680		0032		15332									
		STD	0020	2275	3646	2513		0028491		0061		15313									
100		OBS	0025	2235	36451	2524						15304									
		STD	0030	2199	3645	2534		0026542		0089		15296									
		STD	0050	2049	3643	2574		0022828		0138		15260									
100		OBS	0051	2041	36425	2576						15257									
		STD	0075	1847	3635	2621		0018447		0190		15207									
100		OBS	0076	1841	36351	2622						15205									
		STD	0100	1769	3637	2641		0016586		0234		15189									
100		OBS	0101	1766	36368	2642						15188									
		STD	0125	1757	3636	2643		0016463		0275		15189									
		STD	0150	1741	3635	2646		0016262		0316		15188									
		STD	0200	1687	3632	2658		0015350		0395		15180									
100		OBS	T0204	1681	36320	2659						15179									
		STD	0250	1577	3619	2673		0014000		0468		15153									
		STD	0300	1487	3606	2683		0013149		0536		15132									
100		OBS	0305	1479	36048	2684						15130									
		STD	0400	1383	3581	2687		0013084		0667		15112									
100		OBS	T0404	1378	35804	2687						15111									
		STD	0500	1202	3555	2703		0011663		0791		15064									
		STD	0600	1037	3537	2720		0010181		0900		15020									
100		OBS	T0607	1026	35355	2720						15017									
		STD	0700	0885	3528	2738		0008452		0993		14980									
		STD	0800	0763	3523	2753		0007054		1071		14950									
100		OBS	0812	0750	35222	2754						14947									
		STD	0900	0684	3522	2763		0006091		1137		14935									
		STD	1000	0617	3520	2771		0005404		1194		14925									
100		OBS	T1024	0602	35192	2772						14923									
		STD	1100	0559	3515	2774		0005079		1247		14918									
		STD	1200	0508	3510	2777		0004860		1296		14913									
100		OBS	1269	0478	35069	2778						14912									
		STD	1300	0466	3506	2778		0004693		1344		14912									
		STD	1400	0431	3502	2779		0004619		1391		14914									
		STD	1500	0404	3498	2779		0004647		1437		14919									
100		OBS	T1522	0399	34975	2779						14921									

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	UNITS N/E/S/W	MARSEEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR.1/10	CRUISE NO.		STATION NUMBER	DIR.			HGT	PER	SEA	TYPE		AMT		
311304	HM	35012N	047598W	113	57	07	12	100	1968	E13	023	4371	15	27	1	2				X1	8	2	0023	
		WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS												
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS CODE																
						24	S08	257	239	222	7	14												
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ OYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SiO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S OC							
		STD	0000	2457	3646	2460	0033509	0000	15355															
100		OBS	0000	2457	36462	2460			15355															
		STD	0010	2372	3646	2485	0031116	0032	15336															
		STD	0020	2281	3647	2512	0028613	0062	15315															
100		OBS	0025	2233	36467	2526			15304															
		STD	0030	2172	3645	2542	0025792	0089	15289															
		STD	0050	1969	3640	2593	0020996	0136	15237															
100		OBS	0051	1960	36400	2595			15235															
		STD	0075	1802	3636	2632	0017365	0184	15194															
100		OBS	0076	1798	36353	2633			15193															
		STD	0100	1748	3634	2645	0016270	0226	15182															
100		OBS	0101	1746	36343	2645			15182															
		STD	0125	1737	3636	2648	0015990	0266	15183															
		STD	0150	1724	3637	2653	0015657	0306	15184															
100		OBS	0152	1723	36375	2653			15184															
		STD	0200	1686	3633	2659	0015269	0383	15180															
100		OBS	0203	1683	36321	2659			15180															
		STD	0250	1608	3618	2665	0014759	0458	15163															
		STD	0300	1528	3604	2673	0014175	0531	15145															
100		OBS	0305	1520	36026	2674			15143															
		STD	0400	1366	3579	2689	0012882	0666	15106															
100		OBS	T0408	1353	35771	2690			15103															
		STD	0500	1201	3554	2702	0011717	0789	15064															
		STD	0600	1043	3535	2717	0010434	0900	15022															
100		OBS	T0609	1029	35339	2719			15019															
		STD	0700	0874	3524	2737	0008564	0995	14975															
		STD	0800	0741	3517	2751	0007156	1073	14940															
100		OBS	0812	0728	35160	2753			14937															
		STD	0900	0664	3516	2761	0006235	1140	14927															
		STD	1000	0600	3516	2770	0005461	1199	14918															
100		OBS	T1019	0589	35159	2771			14917															
		STD	1100	0546	3512	2774	0005118	1252	14912															
		STD	1200	0499	3508	2776	0004884	1302	14909															
100		OBS	1269	0472	35055	2777			14909															
		STD	1300	0461	3504	2777	0004773	1350	14910															
		STD	1400	0431	3501	2778	0004692	1397	14914															
		STD	1500	0409	3499	2779	0004640	1444	14921															
100		OBS	T1516	0406	34984	2779			14923															

TABLE VIII.—Observed and interpolated oceanographic data for stations taken by USCGC CASTLE ROCK at Ocean Station ECHO, 14 July–4 August 1968, prepared from NODC listing No. 31–1303

REFERENCE	SHIP CODE	LATITUDE 1° 10'	LONGITUDE 1° 10'	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER					
					10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TYPE		AMT				
311303	CK	3514 N	04757 W	D 113 57	07	14	174	1968	E14	001		2926	16	29			2	X8	6	6		0001				
					WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
					COLOR CODE		TRANS. (m)		OIL		SPEED OR FORCE						DRY BULB		WET BULB							
									28		S17						156		228		217		7		14	
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D OYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl/l}$	TOTAL P $\mu\text{g} \cdot \text{dl/l}$	NO ₂ -N $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{dl/l}$	pH	S CC									
		STD	0000	2374	3641	2480	0031557	0000	15334																	
174		OBS	0000	2374	36405	2480			15334																	
		STD	0010	2291	3639	2503	0029396	0030	15315																	
		STD	0020	2202	3639	2529	0027017	0059	15294																	
174		OBS	0027	2136	36386	2547			15278																	
		STD	0030	2097	3639	2558	0024303	0084	15268																	
		STD	0050	1891	3640	2613	0019119	0128	15216																	
174		OBS	0053	1869	36397	2619			15210																	
		STD	0075	1781	3639	2640	0016586	0172	15188																	
174		OBS	0080	1769	36393	2643			15186																	
		STD	0100	1753	3639	2647	0016045	0213	15184																	
174		OBS	0106	1750	36386	2647			15184																	
		STD	0125	1748	3639	2648	0015983	0253	15187																	
		STD	0150	1745	3641	2650	0015915	0293	15190																	
174		OBS	0160	1744	36410	2651			15192																	
		STD	0200	1715	3637	2655	0015646	0372	15189																	
174		OBS	T0213	1704	36351	2656			15188																	
		STD	0250	1670	3629	2659	0015359	0450	15183																	
		STD	0300	1616	3620	2665	0014953	0525	15174																	
174		OBS	0322	1589	36150	2667			15169																	
		STD	0400	1475	3595	2678	0013992	0670	15143																	
174		OBS	T0433	1423	35868	2683			15131																	
		STD	0500	1289	3567	2695	0012480	0802	15095																	
		STD	0600	1105	3543	2712	0010968	0920	15045																	
174		OBS	0650	1020	35344	2720			15022																	
		STD	0700	0935	3530	2732	0009140	1020	14999																	
		STD	0800	0790	3522	2748	0007548	1104	14960																	
174		OBS	T0862	0716	35176	2756			14941																	
		STD	0900	0683	3516	2759	0006516	1174	14934																	
		STD	1000	0605	3513	2767	0005745	1235	14920																	
174		OBS	1090	0549	35099	2772			14912																	
		STD	1100	0545	3510	2772	0005273	1290	14912																	
		STD	1200	0509	3508	2775	0005035	1342	14913																	
		STD	1300	0477	3506	2777	0004850	1391	14917																	
174		OBS	T1380	0453	35043	2778			14920																	
		STD	1400	0447	3504	2779	0004687	1439	14921																	
		STD	1500	0422	3501	2779	0004668	1486	14927																	
174		OBS	T1639	0392	34978	2780			14937																	

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT INCH	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	
311	303	CK	3504 N	04803 W	113	58	07	15	133	1968	E14	002	3840	16	35				2	X1	8	5	0002
						WATER		WIND		BARO- METER (mb)		AIR TEMP °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB		WET BULB											
									35	518	183	217	206		14								
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₃ -N μg - at/l	NO ₂ -N μg - at/l	SIO ₄ -Si μg - at/l	pH						
		STD	0000	2386	3647	2481	0031434		0000	15338													
133		OBS	0000	2386	36469	2481				15338													
		STD	0010	2384	3647	2482	0031412		0031	15339													
		STD	0020	2383	3647	2483	0031400		0063	15340													
133		OBS	0024	2382	36473	2483				15341													
		STD	0030	2297	3644	2505	0029280		0093	15320													
133		OBS	0048	2085	36365	2559				15268													
		STD	0050	2068	3636	2563	0023822		0146	15264													
133		OBS	0072	1903	36346	2606				15222													
		STD	0075	1884	3634	2610	0019444		0200	15217													
133		OBS	0096	1779	36306	2634				15190													
		STD	0100	1774	3631	2635	0017139		0246	15189													
		STD	0125	1740	3631	2644	0016379		0288	15184													
133		OBS	0144	1714	36319	2651				15179													
		STD	0150	1706	3631	2652	0015707		0328	15178													
133		OBS	T0193	1647	36234	2660				15166													
		STD	0200	1638	3622	2661	0014979		0405	15164													
		STD	0250	1574	3612	2669	0014442		0478	15152													
133		OBS	0295	1516	36026	2674				15140													
		STD	0300	1510	3602	2675	0013932		0549	15139													
		STD	0400	1378	3580	2687	0013054		0684	15110													
133		OBS	T0400	1378	35800	2687				15110													
		STD	0500	1210	3555	2701	0011815		0809	15067													
		STD	0600	1047	3537	2718	0010359		0919	15024													
133		OBS	0603	1042	35361	2718				15023													
		STD	0700	0868	3525	2738	0008393		1013	14973													
		STD	0800	0729	3518	2754	0006900		1090	14936													
133		OBS	T0816	0710	35167	2756				14931													
		STD	0900	0644	3515	2763	0006017		1154	14919													
		STD	1000	0579	3513	2770	0005377		1211	14909													
133		OBS	1028	0563	35126	2772				14907													
		STD	1100	0538	3511	2774	0005066		1263	14909													
		STD	1200	0505	3509	2777	0004863		1313	14912													
		STD	1300	0476	3508	2778	0004719		1361	14917													
133		OBS	T1313	0472	35072	2779				14917													
		STD	1400	0449	3505	2779	0004641		1408	14922													
		STD	1500	0426	3502	2780	0004649		1454	14929													
133		OBS	T1589	0408	34999	2780				14936													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT INCHES	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT	
311303	CK		3510 N	04759 W		113	57	07	16	123	1968	E14	003	3109	15	35	2	3		X1	8	6	0003	
						WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB	VIS. CODE										
									36	506	207	222	194	8	14									

MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	Σ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SIO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	COND.
		STD	0000	2356	3643	2488	0030843	0000	15330								
123		OBS	0000	2356	36434	2488			15330								
		STD	0010	2307	3644	2502	0029505	0030	15320								
		STD	0020	2239	3644	2522	0027669	0059	15304								
123		OBS	0025	2197	36439	2534			15294								
		STD	0030	2127	3642	2552	0024849	0085	15277								
		STD	0050	1908	3636	2606	0019796	0130	15220								
123		OBS	0051	1900	36355	2607			15218								
		STD	0075	1772	3633	2637	0016876	0176	15185								
123		OBS	0076	1769	36324	2638			15184								
		STD	0100	1740	3632	2645	0016251	0217	15180								
123		OBS	0101	1739	36316	2645			15179								
		STD	0125	1738	3637	2649	0015929	0257	15184								
		STD	0150	1737	3639	2651	0015845	0297	15188								
123		OBS	0152	1737	36392	2651			15188								
		STD	0200	1687	3631	2657	0015437	0375	15180								
123		OBS	T0202	1685	36307	2657			15180								
		STD	0250	1647	3625	2662	0015127	0451	15176								
		STD	0300	1592	3616	2668	0014707	0526	15166								
123		OBS	0305	1586	36152	2668			15165								
		STD	0400	1433	3588	2681	0013612	0668	15129								
123		OBS	T0405	1425	35868	2682			15127								
		STD	0500	1272	3563	2695	0012436	0798	15089								
		STD	0600	1117	3544	2711	0011116	0916	15050								
123		OBS	0609	1103	35429	2712			15046								
		STD	0700	0958	3534	2731	0009239	1017	15008								
		STD	0800	0821	3525	2746	0007820	1103	14972								
123		OBS	0812	0806	35244	2748			14968								
		STD	0900	0707	3519	2758	0006656	1175	14944								
		STD	1000	0616	3514	2766	0005829	1238	14924								
123		OBS	1015	0604	35138	2768			14922								
		STD	1100	0557	3511	2771	0005345	1293	14917								
		STD	1200	0509	3508	2775	0005021	1345	14913								
123		OBS	T1275	0477	35060	2777			14913								
		STD	1300	0467	3505	2777	0004780	1394	14913								
		STD	1400	0434	3502	2779	0004659	1441	14915								
		STD	1500	0407	3499	2779	0004614	1488	14920								
123		OBS	T1520	0403	34983	2779			14922								

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH M	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	

311303	CK	3502 N	04801 W	113	58	07	18	094	1968	E14	005	4206	14	27			2	X0	0		0005
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		24	516	179	233	211	8	13	

24	S16	179	233	211	8	13			
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MESSENGER TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t ?	Σ Δ O OYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C C
		STD	0000	2352	3644	2489	0030673	0000	15329								
094		OBS	0000	2352	36442	2489			15329								
		STD	0010	2337	3642	2492	0030453	0031	15327								
		STD	0020	2265	3641	2512	0028578	0060	15310								
094		OBS	0022	2244	36403	2518			15305								
		STD	0030	2085	3639	2561	0023970	0086	15265								
094		OBS	0042	1910	36369	2606			15219								
		STD	0050	1853	3637	2620	0018394	0129	15205								
094		OBS	0062	1791	36370	2636			15189								
		STD	0075	1760	3636	2643	0016341	0172	15182								
094		OBS	0082	1748	36358	2646			15179								
		STD	0100	1747	3639	2648	0015910	0212	15183								
094		OBS	0124	1746	36413	2650			15186								
		STD	0125	1745	3641	2650	0015799	0252	15186								
		STD	0150	1728	3639	2653	0015634	0291	15185								
094		OBS	T0168	1715	36367	2654			15184								
		STD	0200	1690	3633	2658	0015361	0369	15181								
		STD	0250	1642	3624	2662	0015086	0445	15174								
094		OBS	0253	1639	36236	2662			15174								
		STD	0300	1579	3612	2667	0014710	0519	15161								
094		OBS	T0344	1519	36017	2673			15149								
		STD	0400	1404	3583	2684	0013371	0660	15119								
		STD	0500	1214	3554	2700	0011965	0787	15068								
		STD	0600	1042	3533	2716	0010562	0899	15022								
094		OBS	T0695	0896	35192	2729			14982								
		STD	0700	0888	3519	2731	0009160	0998	14980								
		STD	0800	0748	3515	2749	0007410	1081	14943								
094		OBS	0882	0657	35117	2759			14920								
		STD	0900	0644	3511	2760	0006311	1149	14918								
		STD	1000	0580	3509	2767	0005685	1209	14909								
		STD	1100	0530	3508	2772	0005190	1264	14905								
094		OBS	T1131	0517	35072	2773			14905								
		STD	1200	0493	3507	2776	0004876	1314	14907								
		STD	1300	0471	3506	2778	0004761	1362	14914								
094		OBS	T1393	0462	35059	2779			14926								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.						10'	1'	MO		DAY	HR 1/10			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA	TYPE
311303	CK		3501 N	048005W		113	58	07	19	123	1968	E14	006	4297	42	30			1	X1	8	5	0006
						WATER		WIND		SPEED OF FORCE	BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS (m)	DIR.	DRY BULB			WET BULB											
								34	507		190	228	200	8	20								
MESSAGE TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S.D. O ₂ M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg-at/l	TOTAL-P μg-at/l	NO ₂ -N μg-at/l	NO ₃ -N μg-at/l	SiO ₄ -Si μg-at/l	pH	S C						
		STD	0000	2355	3648	2491	0030519	0000	15330														
123		OBS	0000	2355	36475	2491			15330														
		STD	0010	2350	3648	2493	0030382	0030	15331														
		STD	0020	2345	3649	2495	0030245	0061	15331														
123		OBS	0023	2344	36489	2495			15331														
		STD	0030	2200	3644	2533	0026641	0089	15296														
123		OBS	0048	1927	36349	2600			15225														
		STD	0050	1910	3635	2604	0019918	0136	15221														
123		OBS	0072	1780	36352	2647			15187														
		STD	0075	1776	3636	2639	0016715	0182	15187														
123		OBS	0095	1756	36391	2646			15184														
		STD	0100	1755	3639	2647	0016085	0223	15185														
		STD	0125	1747	3639	2649	0015969	0263	15187														
123		OBS	0144	1736	36394	2651			15187														
		STD	0150	1731	3639	2652	0015704	0302	15186														
123		OBS	T0192	1692	36323	2657			15181														
		STD	0200	1684	3631	2657	0015369	0380	15179														
		STD	0250	1632	3622	2663	0015006	0456	15171														
123		OBS	0292	1582	36135	2668			15161														
		STD	0300	1571	3611	2668	0014606	0530	15159														
123		OBS	T0394	1437	35874	2680			15129														
		STD	0400	1429	3586	2681	0013674	0671	15127														
		STD	0500	1279	3563	2694	0012574	0802	15091														
123		OBS	0592	1123	35441	2710			15051														
		STD	0600	1101	3542	2712	0010968	0920	15044														
		STD	0700	0864	3517	2733	0008914	1020	14971														
123		OBS	0795	0713	35058	2747			14927														
		STD	0800	0711	3506	2747	0007511	1102	14927														
		STD	0900	0674	3516	2760	0006383	1171	14931														
123		OBS	0998	0632	35203	2769			14931														
		STD	1000	0631	3520	2769	0005606	1231	14931														
		STD	1100	0570	3515	2773	0005234	1285	14922														
		STD	1200	0518	3511	2776	0004925	1336	14918														
123		OBS	T1255	0494	35088	2777			14917														
		STD	1300	0478	3507	2778	0004783	1385	14917														
		STD	1400	0447	3503	2778	0004760	1432	14921														
		STD	1500	0420	3501	2779	0004641	1479	14926														
123		OBS	T1504	0419	35004	2779			14926														
		STD	1750	0402	3499	2780	0004772	1597	14960														
		STD	2000	0383	3498	2781	0004797	1717	14995														
154		OBS	T2169	0368	34972	2782			15017														
		STD	2500	0333	3496	2784	0004610	1952	15059														
154		OBS	T2726	0312	34945	2785			15089														
		STD	3000	0288	3494	2787	0004409	2177	15126														
154		OBS	3274	0267	34924	2788			15164														
154		OBS	T3838	0232	34892	2788			15247														
		STD	4000	0229	3489	2788	0004341	2615	15275														
154		OBS	4111	0226	34888	2788			15293														
154		OBS	T4236	0221	34888	2789			15313														

REFERENCE		SHIP CODE	LATITUDE 1°/10	LONGITUDE 1°/10	ALCUT INCH	MARDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'WPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT			
311303	CK		3503 N	04801 W		113	58	07	20	127	1968	E14	007	4252	13	03			1	X1	8	5	0007		
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	METER (mba)		DRY BULB	WET BULB												
								02	S13	224	222	200	7	14											
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}		$\Sigma \Delta D$ OWN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SiO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	CTC							
		STD	0000	2369	3645	2485	0031085		0000	15333															
127		OBS	0000	2369	36451	2485				15333															
		STD	0010	2284	3643	2508	0028915		0030	15314															
		STD	0020	2193	3641	2533	0026632		0058	15292															
127		OBS	0024	2155	36397	2542				15283															
		STD	0030	2085	3638	2560	0024042		0083	15265															
127		OBS	0047	1920	36352	2602				15223															
		STD	0050	1896	3635	2608	0019575		0127	15217															
127		OBS	0071	1775	36349	2638				15185															
		STD	0075	1767	3635	2640	0016577		0172	15184															
127		OBS	0094	1736	36365	2649				15178															
		STD	0100	1734	3637	2650	0015785		0212	15178															
		STD	0125	1724	3636	2652	0015653		0252	15180															
127		OBS	0139	1716	36362	2654				15179															
		STD	0150	1708	3635	2655	0015462		0291	15179															
127		OBS	0185	1680	36310	2658				15176															
		STD	0200	1672	3630	2660	0015168		0367	15176															
		STD	0250	1631	3623	2664	0014911		0442	15171															
127		OBS	0275	1603	36178	2666				15165															
		STD	0300	1565	3610	2669	0014546		0516	15157															
127		OBS	T0362	1469	35926	2677				15135															
		STD	0400	1412	3584	2683	0013465		0656	15122															
		STD	0500	1246	3561	2699	0012073		0784	15080															
127		OBS	0535	1182	35526	2705				15063															
		STD	0600	1031	3534	2718	0010294		0896	15018															
		STD	0700	0842	3517	2736	0008589		0990	14962															
127		OBS	0700	0842	35166	2736				14962															
		STD	0800	0708	3517	2756	0006680		1066	14928															
127		OBS	0862	0648	35167	2764				14914															
		STD	0900	0638	3517	2766	0005798		1129	14917															
		STD	1000	0606	3517	2770	0005466		1185	14920															
127		OBS	T1073	0577	35172	2774				14921															
		STD	1100	0565	3516	2774	0005090		1238	14921															
		STD	1200	0517	3512	2777	0004838		1287	14917															
127		OBS	T1290	0467	35052	2778				14911															

REFERENCE		SHIP CODE	LATITUDE ° ' /10	LONGITUDE ° ' /10	DREF INDEX	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	IO. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
311303	CK	3502 N	04753 W	113	57	07	21	129	1968	E14	008	4206	13	10			0	X1	8	2	0008		
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIB. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mba)	DRY BULB	WET BULB															
				09	S15	254	228	206	8	14													
MESSENGER TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-310°	$\Sigma \Delta$ D DYN M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	TOTAL-P µg - at/l	NO ₂ -N µg - at/l	NO ₃ -N µg - at/l	Si O ₄ -Si µg - at/l	pH	S C						
		STD	0000	2358	3645	2488	0030798	0000	15331														
129	085	0000	2358	36448	2488				15331														
	STD	0010	2358	3645	2488	0030845	0031		15332														
	STD	0020	2308	3645	2503	0029501	0061		15322														
129	085	0022	2292	36446	2507				15318														
	STD	0030	2168	3644	2542	0025787	0089		15288														
129	085	0043	2003	36414	2585				15246														
	STD	0050	1937	3639	2600	0020293	0135		15229														
129	085	0065	1830	36352	2625				15200														
	STD	0075	1790	3636	2636	0017045	0181		15191														
129	085	0085	1758	36362	2644				15183														
	STD	0100	1742	3636	2647	0016007	0223		15181														
	STD	0125	1718	3635	2652	0015609	0262		15178														
129	085	0127	1716	36347	2653				15177														
	STD	0150	1697	3632	2655	0015428	0301		15175														
129	085	T0168	1682	36301	2657				15173														
	STD	0200	1652	3626	2661	0015004	0377		15169														
	STD	0250	1601	3618	2667	0014604	0451		15161														
129	085	0254	1597	36168	2667				15160														
	STD	0300	1544	3607	2672	0014305	0523		15150														
129	085	T0338	1499	35989	2675				15141														
	STD	0400	1428	3588	2682	0013507	0662		15127														
	STD	0500	1287	3568	2696	0012368	0792		15095														
129	085	0504	1281	35673	2697				15093														
	STD	0600	1100	3543	2713	0010876	0908		15044														
129	085	T0671	0970	35283	2724				15007														
	STD	0700	0906	3523	2731	0009165	1008		14987														
	STD	0800	0728	3511	2749	0007399	1091		14935														
129	085	0844	0670	35078	2754				14919														
	STD	0900	0646	3511	2760	0006340	1160		14919														
	STD	1000	0604	3514	2768	0005657	1220		14919														
129	085	T1075	0573	35152	2773				14919														
	STD	1100	0563	3515	2774	0005136	1274		14920														
	STD	1200	0522	3513	2777	0004833	1324		14919														
	STD	1300	0481	3508	2778	0004750	1371		14919														
129	085	T1325	0471	35065	2778				14919														

REFERENCE		SHIP CODE	LATITUDE ° ' ''	LONGITUDE ° ' ''	DATE DDMM	MAPSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CRUISE CODE	IO. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DR	HGT	PER		SEA	TYPE		AMT
311303	CK	3503	N	04806	W	113	58	07	23	134	1968	E14	010	3292	15	00			0	X1	0	1	0010
						WATER		WIND		AIR TEMP °C		BARO- METER (mb)		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS- (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS										
									21	506	237	239	211	8	14								

MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S D DYN. V. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₃ -N μg - ml/l	NO ₃ -N μg - ml/l	SIO ₄ -Si μg - ml/l	pH	STATUS
		STD	0000	2384	3638	2475	0032026	0000	15336								
134		OBS	0000	2384	36379	2475			15336								
		STD	0010	2278	3634	2503	0029400	0031	15311								
		STD	0020	2185	3632	2528	0027068	0059	15289								
134		OBS	0024	2152	36312	2537			15281								
		STD	0030	2113	3631	2547	0025277	0085	15272								
134		OBS	0049	1994	36302	2579			15243								
		STD	0050	1987	3630	2581	0022178	0133	15241								
134		OBS	0074	1845	36312	2618			15206								
		STD	0075	1841	3631	2619	0018600	0184	15205								
134		OBS	0098	1766	36336	2640			15187								
		STD	0100	1764	3634	2640	0016694	0228	15187								
		STD	0125	1736	3634	2647	0016127	0269	15183								
134		OBS	0148	1712	36336	2653			15179								
		STD	0150	1710	3633	2653	0015653	0308	15179								
134		OBS	T0198	1664	36269	2659			15172								
		STD	0200	1662	3627	2659	0015194	0386	15172								
		STD	0250	1605	3617	2665	0014794	0461	15162								
134		OBS	0298	1545	36071	2671			15150								
		STD	0300	1542	3607	2672	0014261	0533	15149								
134		OBS	T0398	1405	35834	2684			15119								
		STD	0400	1403	3583	2684	0013351	0671	15119								
		STD	0500	1282	3565	2695	0012487	0800	15093								
134		OBS	0597	1136	35470	2709			15056								
		STD	0600	1128	3546	2710	0011173	0919	15054								
		STD	0700	0903	3522	2730	0009189	1021	14986								
134		OBS	0796	0748	35093	2744			14941								
		STD	0800	0745	3510	2745	0007731	1105	14941								
		STD	0900	0676	3514	2758	0006559	1177	14931								
134		OBS	0996	0620	35164	2768			14925								
		STD	1000	0618	3516	2768	0005711	1238	14925								
		STD	1100	0578	3515	2772	0005348	1293	14926								
		STD	1200	0538	3513	2775	0005056	1345	14926								
134		OBS	T1246	0519	35114	2776			14926								
		STD	1300	0497	3509	2777	0004897	1395	14925								
		STD	1400	0455	3505	2779	0004722	1443	14924								
134		OBS	T1492	0417	35000	2779			14923								

REFERENCE		SHIP CODE	LATITUDE ° ' /10	LONGITUDE ° ' /10	UNIT IN/OUT	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	IO. NO.					10'	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311303	CK	3503 N	04804 W	113	58 07 24	129	1968	E14	011		3292	15	00			0	X1	8	4		0011
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. 1/10	DIR.	SPEED OF FORCE		DRY BULB	WET BULB			

		03	S06	247	244	233	8	14	
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MESSAGE TIME HR /10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY, T=15°	S Δ D OPL. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 01/1	TOTAL-P μg - 01/1	NO ₂ -N μg - 01/1	NO ₃ -N μg - 01/1	SiO ₄ -Si μg - 01/1	pH	S CODE
		STD	0000	2389	3640	2475	0032045	0000	15337								
129		OBS	0000	2389	36396	2475			15337								
		STD	0010	2286	3637	2503	0029396	0031	15314								
		STD	0020	2190	3635	2529	0027014	0059	15291								
129		OBS	0025	2145	36333	2540			15280								
		STD	0030	2100	3635	2554	0024649	0085	15269								
		STD	0050	1950	3640	2598	0020515	0130	15232								
129		OBS	0050	1950	36404	2598			15232								
		STD	0075	1824	3639	2629	0017649	0178	15201								
129		OBS	0075	1824	36388	2629			15201								
129		OBS	0099	1766	36355	2641			15187								
		STD	0100	1765	3635	2641	0016616	0220	15187								
		STD	0125	1735	3634	2647	0016074	0261	15182								
129		OBS	0149	1708	36322	2653			15178								
		STD	0150	1707	3632	2653	0015657	0301	15178								
129		OBS	T0198	1659	36258	2659			15171								
		STD	0200	1657	3625	2659	0015190	0378	15170								
		STD	0250	1607	3617	2665	0014810	0453	15162								
129		OBS	0299	1552	36073	2670			15152								
		STD	0300	1551	3607	2670	0014450	0526	15152								
		STD	0400	1418	3584	2682	0013575	0666	15124								
129		OBS	T0401	1417	35840	2682			15123								
		STD	0500	1279	3564	2695	0012501	0797	15092								
		STD	0600	1117	3544	2711	0011086	0915	15050								
129		OBS	0600	1117	35444	2711			15050								
		STD	0700	0886	3520	2732	0009054	1015	14979								
129		OBS	T0795	0733	35081	2746			14935								
		STD	0800	0730	3508	2746	0007627	1099	14935								
		STD	0900	0679	3513	2757	0006699	1170	14932								
		STD	1000	0629	3517	2767	0005797	1233	14930								
129		OBS	1004	0627	35172	2767			14930								
		STD	1100	0580	3515	2772	0005376	1289	14926								
		STD	1200	0534	3512	2775	0005074	1341	14924								
129		OBS	T1269	0505	35094	2777			14924								
		STD	1300	0492	3508	2777	0004901	1391	14923								
		STD	1400	0454	3505	2779	0004709	1439	14924								
		STD	1500	0419	3501	2780	0004628	1486	14926								
129		OBS	T1517	0413	34998	2779			14926								

REFERENCE		SHIP CODE	LATITUDE ° ' 10"	LONGITUDE ° ' 10"	DATE MO DAY	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TH- ER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.								CRUISE NO.	STATION NUMBER			DIR	HGT PER	SEA		THRS	AMT	
311303	CK		3501 N	04801 W	113 58 07 25	093	1968	E14 012			4206	15 00			0	X1	0 1		0012
						WATER		WIND		BARO- METER		AIR TEMP °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS	
						COLOR CODE	TRANS- M	DIR	SPEED OR FORCE	DRY BULB	WET BULB								
						24	S02		257	228	222	7	14						

MESSINGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₂ -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{dl}^{-1}$	SIO ₄ -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S C C
		STD	0000	2422	3650	2473	0032211	0000	15347								
093		OBS	0000	2422	36503	2473			15347								
		STD	0010	2303	3647	2506	0029150	0031	15319								
		STD	0020	2193	3644	2535	0026415	0058	15292								
093		OBS	0025	2142	36424	2548			15280								
		STD	0030	2091	3641	2561	0023981	0084	15267								
		STD	0050	1922	3636	2602	0020140	0128	15224								
093		OBS	0052	1908	36356	2605			15220								
		STD	0075	1792	3635	2635	0017136	0174	15191								
093		OBS	0077	1786	36354	2636			15190								
		STD	0100	1758	3635	2643	0016423	0216	15185								
093		OBS	0102	1756	36354	2643			15185								
		STD	0125	1742	3635	2647	0016143	0257	15185								
		STD	0150	1723	3635	2651	0015794	0297	15183								
093		OBS	0154	1720	36352	2652			15183								
		STD	0200	1677	3628	2657	0015427	0375	15177								
093		OBS	T0205	1672	36276	2658			15176								
		STD	0250	1630	3620	2662	0015106	0451	15170								
		STD	0300	1572	3610	2667	0014701	0526	15159								
093		OBS	0309	1560	36083	2669			15157								
		STD	0400	1420	3586	2683	0013486	0667	15124								
093		OBS	T0412	1401	35837	2685			15120								
		STD	0500	1269	3564	2697	0012304	0796	15088								
		STD	0600	1109	3543	2711	0011041	0912	15047								
093		OBS	0615	1084	35404	2714			15040								
		STD	0700	0903	3523	2731	0009115	1013	14986								
		STD	0800	0744	3510	2746	0007715	1097	14941								
093		OBS	T0814	0727	35092	2747			14936								
		STD	0900	0673	3513	2758	0006588	1169	14930								
		STD	1000	0617	3516	2768	0005697	1230	14925								
093		OBS	1027	0603	35162	2770			14924								
		STD	1100	0572	3514	2772	0005336	1286	14923								
		STD	1200	0532	3512	2775	0005046	1337	14923								
093		OBS	T1286	0500	35089	2777			14924								
		STD	1300	0495	3508	2777	0004942	1387	14924								
		STD	1400	0460	3505	2778	0004790	1436	14926								
		STD	1500	0429	3501	2778	0004762	1484	14930								
093		OBS	T1539	0417	34998	2779			14931								

REFERENCE		SHIP CODE	LATITUDE ° ' 10	LONGITUDE ° ' 10	MARS DEN SQUARED	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF STAPLS	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CITY CODE	ID. NO.					10"	1"	MO		DAY	HR			CRUISE NO.	STATION NUMBER	DIR.		HGT	PER		SFA
311303		CK	3503 N	04804 W	113	58	07	26	125	1968	F14 013	2926	15	23		0	X1	8 4		0013	
						WATER		WIND		BARO- METER		AIR TEMP °C		VIS		NO. OBS.		SPECIAL			
						COLOR CODE	TRANS UNIT	DIR	SPEED OR FORCE	DRY BULB		WET BULB		CODE		DEPTHS					
								22	510	240	244	233	8	13							

MESSING TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S °C	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	S Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg · dl ⁻¹	TOTAL-P μg · dl ⁻¹	NO ₂ -N μg · dl ⁻¹	NO ₃ -N μg · dl ⁻¹	SiO ₄ -Si μg · dl ⁻¹	pH	ACC
		STD	0000	2451	3649	2463	0033156	0000	15353								
125		OBS	0000	2451	36487	2463			15353								
		STD	0010	2323	3645	2499	0029848	0032	15324								
		STD	0020	2204	3642	2530	0026854	0060	15295								
125		OBS	0024	2158	36408	2542			15284								
		STD	0030	2083	3640	2562	0023846	0085	15265								
125		OBS	0047	1921	36380	2604			15223								
		STD	0050	1905	3637	2607	0019650	0129	15219								
125		OBS	0072	1813	36354	2629			15197								
		STD	0075	1806	3636	2632	0017423	0175	15195								
125		OBS	0096	1765	36366	2642			15187								
		STD	0100	1759	3636	2643	0016403	0217	15186								
		STD	0125	1727	3633	2649	0015962	0258	15180								
125		OBS	0143	1709	36318	2652			15177								
		STD	0150	1705	3631	2652	0015684	0297	15177								
125		OBS	T0193	1679	36294	2657			15176								
		STD	0200	1677	3629	2658	0015354	0375	15177								
		STD	0250	1650	3626	2662	0015129	0451	15177								
125		OBS	0291	1609	36234	2669			15171								
		STD	0300	1594	3620	2670	0014462	0525	15167								
125		OBS	T0391	1440	35916	2683			15130								
		STD	0400	1421	3589	2685	0013289	0664	15125								
		STD	0500	1227	3563	2704	0011559	0788	15074								
		STD	0600	1057	3542	2720	0010172	0897	15028								
		STD	0700	0912	3528	2734	0008900	0992	14990								
125		OBS	0778	0815	35206	2743			14966								
		STD	0800	0792	3521	2747	0007689	1075	14960								
		STD	0900	0697	3520	2760	0006439	1146	14940								
125		OBS	0986	0630	35194	2769			14928								
		STD	1000	0622	3519	2769	0005549	1206	14927								
		STD	1100	0570	3515	2773	0005234	1260	14922								
		STD	1200	0523	3512	2776	0004921	1310	14920								
125		OBS	T1246	0504	35099	2777			14919								
		STD	1300	0483	3508	2778	0004778	1359	14920								
		STD	1400	0448	3505	2780	0004627	1406	14921								
		STD	1500	0419	3501	2780	0004628	1452	14926								
125		OBS	T1506	0417	35009	2780			14926								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	OBS. INCH	MARSEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER				
CITY CODE	IO. NO.						10'	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA		TYPE	AMT		
311303	CK		3504 N	04803 W		113	58	07	27	123	1968	E14	014	3475	14	24			2	X1	8 1		0014			
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB		WET BULB																		
								21	512	237	256	244	8	14												
MESSNGR TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ σ DYN. M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -S μg - dl/l	pH							
		STD	0000	2466	3648	2458		0033645		0000		15357														
123		OBS	0000	2466	36479	2458						15357														
		STD	0010	2442	3645	2463		0033205		0033		15352														
		STD	0020	2382	3643	2480		0031683		0066		15339														
123		OBS	0022	2366	36429	2484						15336														
		STD	0030	2266	3642	2513		0028566		0096		15312														
123		OBS	0043	2109	36409	2556						15274														
		STD	0050	2012	3638	2580		0022245		0147		15249														
123		OBS	0065	1863	36344	2616						15210														
		STD	0075	1828	3633	2624		0018165		0197		15201														
123		OBS	0088	1792	36312	2631						15193														
		STD	0100	1776	3633	2636		0017055		0241		15190														
		STD	0125	1747	3635	2646		0016259		0283		15186														
123		OBS	0130	1742	36358	2647						15186														
		STD	0150	1727	3636	2651		0015865		0323		15184														
123		OBS	T0173	1708	36351	2655						15182														
		STD	0200	1686	3631	2657		0015414		0401		15180														
		STD	0250	1639	3623	2662		0015091		0478		15173														
123		OBS	0260	1629	36210	2663						15171														
		STD	0300	1583	3613	2667		0014726		0552		15163														
123		OBS	T0350	1522	36034	2674						15151														
		STD	0400	1465	3594	2679		0013851		0695		15140														
		STD	0500	1324	3574	2693		0012671		0828		15108														
123		OBS	0523	1286	35686	2697						15098														
		STD	0600	1115	3546	2712		0010933		0946		15049														
		STD	0700	0922	3525	2730		0009286		1047		14993														
123		OBS	T0707	0910	35236	2731						14990														
		STD	0800	0753	3513	2747		0007633		1131		14944														
		STD	0900	0633	3506	2758		0006520		1202		14913														
123		OBS	0904	0629	35058	2758						14912														
		STD	1000	0603	3511	2766		0005863		1264		14918														
		STD	1100	0572	3513	2771		0005409		1320		14923														
123		OBS	T1158	0552	35136	2774						14925														
		STD	1200	0537	3513	2776		0005042		1373		14925														
		STD	1300	0496	3510	2778		0004810		1422		14925														
		STD	1400	0452	3504	2778		0004755		1470		14923														
123		OBS	T1417	0444	35023	2778						14922														

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCHES	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CRUISE CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA	
311	303	CK	3503 N	04800 W	113	58	07	28	152	1968	E14	015	4206	15	20			2	X1	1 5	0015
WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS												
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB															
18	S13	254	250	244	8	14															
MESSNGR TIME OF HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{ml}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₂ -N $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{ml}^{-1}$	SiO ₄ -Si $\mu\text{g} \cdot \text{ml}^{-1}$	pH					
		STD	0000	2485	3646	2451	0034353	0000	15361												
152		OBS	0000	2485	36457	2451			15361												
		STD	0010	2482	3643	2450	0034502	0034	15362												
		STD	0020	2424	3641	2466	0033019	0068	15349												
152		OBS	0025	2374	36394	2479			15338												
		STD	0030	2262	3637	2510	0028824	0099	15311												
152		OBS	0049	1943	36317	2593			15229												
		STD	0050	1934	3632	2596	0020748	0149	15227												
152		OBS	0074	1783	36310	2633			15188												
		STD	0075	1781	3631	2634	0017188	0196	15187												
152		OBS	0098	1746	36328	2644			15181												
		STD	0100	1745	3633	2644	0016302	0238	15181												
		STD	0125	1733	3634	2648	0016035	0278	15182												
152		OBS	0146	1723	36348	2651			15182												
		STD	0150	1721	3635	2651	0015798	0318	15183												
152		OBS	T0195	1696	36310	2655			15182												
		STD	0200	1693	3631	2655	0015575	0397	15182												
		STD	0250	1653	3625	2660	0015262	0474	15177												
152		OBS	0293	1608	36176	2665			15170												
		STD	0300	1598	3616	2666	0014841	0549	15168												
152		OBS	T0395	1464	35913	2677			15138												
		STD	0400	1458	3590	2678	0013993	0693	15137												
		STD	0500	1327	3569	2689	0013095	0829	15108												
152		OBS	0589	1187	35510	2703			15073												
		STD	0600	1160	3548	2706	0011625	0952	15065												
		STD	0700	0942	3524	2726	0009697	1059	15001												
152		OBS	0787	0800	35117	2739			14960												
		STD	0800	0787	3512	2741	0008234	1148	14957												
		STD	0900	0698	3514	2755	0006887	1224	14940												
152		OBS	0982	0639	35144	2764			14930												
		STD	1000	0631	3514	2764	0006046	1289	14930												
		STD	1100	0587	3513	2769	0005623	1347	14929												
		STD	1200	0547	3511	2773	0005329	1402	14929												
152		OBS	T1228	0537	35102	2773			14930												
		STD	1300	0511	3508	2775	0005164	1454	14931												
		STD	1400	0479	3504	2775	0005124	1506	14934												
152		OBS	1475	0457	35013	2776			14937												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO DAY HR, 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311303 CK 3505 N 04801 W 113 58 07 29 126 1968 E14 016 4206 16 20 1 X1 0 3 0016

WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. M	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

21 514 268 256 239 8 14

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-t	SPECIFIC VOLUME ANOMALY- σ_t	Σ S.D. DYN CM x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg-at/l	TOTAL-P μg-at/l	NO ₃ -N μg-at/l	NO ₂ -N μg-at/l	SIO ₄ -Si μg-at/l	PH	ST C
		STD	0000	2482	3643	2450	0034468	0000	15360								
126		OBS	0000	2482	36429	2450			15360								
		STD	0010	2421	3640	2466	0032965	0034	15347								
		STD	0020	2342	3637	2487	0030993	0066	15329								
126		OBS	0026	2286	36355	2502			15316								
		STD	0030	2227	3634	2518	0028090	0095	15302								
		STD	0050	1992	3628	2578	0022463	0146	15242								
126		OBS	0051	1983	36279	2580			15240								
		STD	0075	1843	3629	2617	0018814	0197	15205								
126		OBS	0076	1839	36294	2618			15204								
		STD	0100	1791	3633	2633	0017394	0243	15195								
126		OBS	0101	1789	36328	2633			15194								
		STD	0125	1772	3636	2640	0016793	0285	15194								
		STD	0150	1753	3637	2645	0016361	0327	15192								
126		OBS	0151	1752	36374	2646			15192								
		STD	0200	1706	3638	2657	0015381	0406	15187								
126		OBS	T0200	1706	36378	2657			15187								
		STD	0250	1655	3628	2662	0015090	0482	15178								
		STD	0300	1596	3617	2667	0014724	0557	15167								
126		OBS	0301	1595	36166	2667			15167								
		STD	0400	1453	3589	2678	0013960	0700	15135								
126		OBS	0401	1451	35889	2678			15135								
		STD	0500	1292	3565	2693	0012685	0834	15096								
		STD	0600	1122	3543	2709	0011281	0953	15051								
126		OBS	0602	1118	35422	2709			15050								
		STD	0700	0901	3519	2728	0009375	1057	14985								
		STD	0800	0744	3505	2742	0008082	1144	14940								
126		OBS	T0809	0733	35048	2743			14937								
		STD	0900	0682	3509	2754	0007015	1219	14933								
		STD	1000	0632	3512	2763	0006208	1286	14930								
126		OBS	1017	0624	35126	2764			14930								
		STD	1100	0591	3512	2768	0005753	1345	14930								
		STD	1200	0552	3510	2771	0005473	1401	14931								
126		OBS	T1288	0518	35081	2774			14932								
		STD	1300	0513	3508	2774	0005192	1455	14932								
		STD	1400	0474	3505	2777	0004982	1506	14932								
		STD	1500	0436	3502	2778	0004784	1554	14933								
126		OBS	T1556	0414	35001	2779			14933								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	ORIGINATOR'S	DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS	WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER									
CTRY CODE	ID. NO.											MAPS SQUARE	STATION TIME (GMT)			YEAR	CRUISE NO.	STATION NUMBER		
					10"	1"	MO	DAY	HR	1/10										
311303	CK		3505 N	04800 W	113	58	07	30	124	1968	E14	017	4206	16	25		1	X1	3 5	0017

WATER	WIND	BARO-	AIR TEMP.	VIS.	NO.	SPECIAL
COLOR	TRANS	DIR.	SPEED	DRY	WET	NO.
CODE	(m)	(m/s)	(m/s)	BULB	BULB	DEPTHS
24	S14	268	250	239	7	14

MESSENGER	CASE	CARD	DEPTH	T	S	SIGMA-T	SPECIFIC VOLUME	Δ D	SOUND	O ₂	PO ₄ -P	TOTAL-P	NO ₂ -N	NO ₃ -N	SiO ₄ -Si	pH	S
TIME	NO.	TYPE	(m)	°C	‰		ANOMALY-°C	DYN. M.	VELOCITY	ml/l	μg - ml/l	μg - ml/l	μg - ml/l	μg - ml/l	μg - ml/l		CC
		STD	0000	2491	3647	2450	0034448	0000	15363								
124		OBS	0000	2491	36468	2450			15363								
		STD	0010	2437	3643	2463	0033206	0034	15351								
		STD	0020	2360	3640	2484	0031280	0066	15334								
124		OBS	0026	2304	36377	2499			15321								
		STD	0030	2242	3636	2515	0028352	0096	15306								
		STD	0050	1995	3632	2580	0022250	0146	15244								
124		OBS	0051	1985	36316	2582			15241								
		STD	0075	1836	3635	2623	0018241	0197	15204								
124		OBS	0078	1823	36350	2627			15200								
		STD	0100	1772	3632	2637	0016998	0241	15189								
124		OBS	0103	1767	36319	2638			15188								
		STD	0125	1751	3635	2644	0016374	0283	15187								
		STD	0150	1733	3636	2650	0015968	0323	15186								
124		OBS	0154	1730	36364	2651			15186								
		STD	0200	1696	3632	2655	0015571	0402	15183								
124		OBS	T0207	1690	36314	2656			15182								
		STD	0250	1644	3624	2662	0015131	0479	15175								
		STD	0300	1584	3614	2668	0014675	0553	15163								
124		OBS	0311	1570	36119	2669			15160								
		STD	0400	1445	3588	2679	0013864	0696	15133								
124		OBS	T0416	1421	35844	2681			15127								
		STD	0500	1289	3566	2694	0012553	0828	15095								
		STD	0600	1125	3545	2710	0011191	0947	15053								
124		OBS	0626	1081	35402	2714			15041								
		STD	0700	0922	3523	2728	0009433	1050	14993								
		STD	0800	0757	3508	2742	0008061	1137	14945								
124		OBS	T0830	0718	35048	2745			14935								
		STD	0900	0671	3507	2753	0006999	1213	14928								
		STD	1000	0614	3509	2763	0006167	1279	14923								
124		OBS	1053	0589	35096	2766			14921								
		STD	1100	0578	3510	2768	0005744	1338	14925								
		STD	1200	0552	3509	2771	0005517	1394	14931								
		STD	1300	0522	3509	2774	0005223	1448	14936								
124		OBS	T1328	0513	35093	2775			14937								
		STD	1400	0488	3507	2777	0005030	1499	14938								
		STD	1500	0449	3504	2779	0004816	1549	14939								
124		OBS	T1601	0406	34984	2779			14937								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MM/DD/YY	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER					
CTRY CODE	ID. NO.						MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT						
311	303	CK	3504 N	04801 W		113	58	07	31	129	1968	E14	018	4206	15	27			0	X8	6	8	0018				
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB																
									27	511	237	256	250	7	14												
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S °C	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₂ -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{dl}^{-1}$	SiO ₄ -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S UNIT									
		STD	0000	2484	3645	2451	0034353		0000	15361																	
129		OBS	0000	2484	36453	2451				15361																	
		STD	0010	2454	3646	2460	0033496		0034	15356																	
		STD	0020	2425	3647	2470	0032648		0067	15350																	
129		OBS	0023	2416	36467	2472				15349																	
		STD	0030	2298	3646	2507	0029163		0098	15321																	
129		OBS	0045	2086	36434	2564				15269																	
		STD	0050	2025	3641	2579	0022359		0149	15253																	
129		OBS	0068	1865	36368	2617				15211																	
		STD	0075	1840	3638	2625	0018090		0200	15205																	
129		OBS	0091	1794	36402	2638				15195																	
		STD	0100	1781	3640	2641	0016629		0243	15193																	
		STD	0125	1752	3640	2648	0016035		0284	15188																	
129		OBS	0136	1742	36394	2650				15187																	
		STD	0150	1737	3639	2651	0015843		0324	15188																	
129		OBS	T0182	1721	36378	2654				15188																	
		STD	0200	1709	3636	2655	0015580		0403	15187																	
		STD	0250	1664	3628	2660	0015295		0480	15181																	
129		OBS	0274	1637	36234	2663				15176																	
		STD	0300	1597	3616	2666	0014819		0555	15167																	
129		OBS	T0366	1500	35997	2676				15146																	
		STD	0400	1463	3593	2679	0013882		0699	15139																	
		STD	0500	1338	3574	2691	0012954		0833	15113																	
129		OBS	0559	1252	35632	2700				15092																	
		STD	0600	1173	3554	2708	0011434		0955	15071																	
		STD	0700	0995	3534	2724	0009880		1061	15021																	
129		OBS	0755	0904	35252	2733				14996																	
		STD	0800	0823	3519	2741	0008292		1152	14972																	
		STD	0900	0680	3509	2754	0006985		1229	14932																	
129		OBS	0950	0628	35069	2759				14920																	
		STD	1000	0618	3511	2764	0006078		1294	14924																	
		STD	1100	0592	3515	2770	0005548		1352	14931																	
129		OBS	T1198	0560	35168	2776				14935																	
		STD	1200	0559	3517	2776	0005082		1405	14935																	
		STD	1300	0520	3512	2777	0005019		1456	14935																	
		STD	1400	0474	3507	2778	0004858		1505	14932																	
129		OBS	T1463	0441	35035	2779				14929																	

REFERENCE		SHIP CODE	LATITUDE °	LONGITUDE °	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO DAY HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		TYPE	AMT		
311	303	CK	3503 N	04804 W	113	58	08	03	170	1968	E14 019	4023	14	07			2	X1	8 3		0019
					WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
								04	S15	270	250	228	8	14							

MISSING TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S C
		STD	0000	2459	3650	2462	0033321	0000	15355								
170		OBS	0000	2459	36496	2462			15355								
		STD	0010	2376	3646	2484	0031257	0032	15337								
		STD	0020	2293	3643	2506	0029202	0063	15318								
170		OBS	0022	2276	36427	2510			15314								
		STD	0030	2210	3643	2529	0027018	0091	15298								
170		OBS	0043	2103	36422	2559			15273								
		STD	0050	2034	3638	2574	0022805	0140	15255								
170		OBS	0065	1919	36344	2602			15225								
		STD	0075	1877	3637	2614	0019056	0193	15216								
170		OBS	0086	1837	36384	2626			15206								
		STD	0100	1795	3636	2634	0017250	0238	15196								
		STD	0125	1742	3634	2646	0016237	0280	15185								
170		OBS	0128	1738	36338	2647			15184								
		STD	0150	1729	3634	2649	0015998	0320	15185								
170		OBS	T0170	1720	36348	2652			15186								
		STD	0200	1716	3634	2652	0015923	0400	15189								
		STD	0250	1689	3631	2657	0015620	0479	15189								
170		OBS	0257	1683	36311	2658			15188								
		STD	0300	1628	3621	2663	0015150	0556	15178								
170		OBS	T0347	1566	36106	2669			15165								
		STD	0400	1495	3598	2676	0014202	0703	15150								
		STD	0500	1350	3576	2690	0013052	0839	15117								
170		OBS	0522	1316	35709	2693			15108								
		STD	0600	1185	3555	2706	0011589	0962	15075								
		STD	0700	1018	3536	2722	0010138	1071	15030								
170		OBS	T0706	1008	35354	2723			15027								
		STD	0800	0823	3518	2740	0008365	1163	14972								
		STD	0900	0683	3508	2753	0007088	1241	14933								
170		OBS	0900	0683	35082	2753			14933								
		STD	1000	0652	3515	2762	0006281	1307	14938								
		STD	1100	0615	3519	2770	0005588	1367	14941								
170		OBS	T1156	0593	35198	2774			14942								
		STD	1200	0574	3518	2775	0005216	1421	14941								
		STD	1300	0528	3513	2777	0005008	1472	14939								
		STD	1400	0477	3509	2779	0004738	1521	14934								
170		OBS	T1418	0467	35081	2780			14933								

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DEPTH INCH	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER					
CTRY CODE	ID. NO.					10'	1'	MO	DAY		HR.	1/10			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA	TYPE	AMT		
311303	CK		3500 N	04802 W		113	58	08	04	154	1968	E14	020		3840	14	07			0	X1	6	7		0020	
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB														
									06	S11	250	239	228					13								
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10 ³		Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	D ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₃ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -Si μg - ml/l	PH	S C								
		STD	0000	2460	3650	2462	0033321		0000	15356																
154		OBS	0000	2460	36500	2462				15356																
		STD	0010	2321	3643	2498	0029936		0032	15323																
		STD	0020	2200	3639	2529	0026964		0060	15294																
154		OBS	0022	2178	36387	2535				15288																
		STD	0030	2092	3639	2559	0024152		0086	15267																
154		OBS	0042	1994	36400	2586				15243																
		STD	0050	1965	3641	2595	0020845		0131	15236																
154		OBS	0063	1916	36431	2609				15225																
		STD	0075	1863	3643	2623	0018267		0180	15212																
154		OBS	0083	1834	36550	26390																				
		STD	0100	1804	3643	2638	0016934		0224	15200																
154		OBS	0124	1774	36435	2645				15195																
		STD	0125	1774	3644	2646	0016260		0265	15195																
		STD	0150	1763	3644	2648	0016088		0305	15196																
154		OBS	T0165	1756	36442	2650				15196																
		STD	0200	1737	3641	2652	0015867		0385	15196																
		STD	0250	1709	3636	2655	0015776		0464	15195																
154		OBS	0250	1709	36356	2655				15195																
		STD	0300	1683	3631	2658	0015676		0543	15195																
154		OBS	T0329	1660	36271	2660				15193																
		STD	0400	1561	3609	2669	0014842		0696	15172																
		STD	0500	1407	3584	2684	0013646		0838	15136																
154		OBS	0501	1405	35834	2684				15136																
		STD	0600	1225	3558	2701	0012140		0967	15089																
154		OBS	T0662	1120	35450	2711				15061																
		STD	0700	1049	3540	2720	0010399		1080	15042																
		STD	0800	0883	3529	2739	0008539		1174	14996																
		STD	0900	0745	3520	2753	0007163		1253	14959																
		STD	1000	0636	3513	2763	0006192		1320	14932																
154		OBS	T1090	0562	35090	2769				14917																
		STD	1100	0555	3509	2770	0005463		1378	14916																
		STD	1200	0503	3509	2776	0004894		1430	14911																
		STD	1300	0479	3508	2779	0004708		1478	14918																
154		OBS	T1352	0478	35080	2779				14926																

TABLE IX.—Observed and interpolated oceanographic data for stations taken by USCGC SEBAGO at Ocean Station ECHO, 5-27 August 1968, prepared from NODC listing No. 31-1311

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CIR CODE	ID. NO.					10"	1"	MO DAY HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT PER	SEA		TYPE	AMT	
311	311	S5	3505 N	04801 W	113	58	08 05 157	1968	E15	001		4160	15	14		1	X1	8	3	0001
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS				
						COLOR CODE	TRANS. MM	DIR	SPEED OR FORCE	DRY BULB		WET BULB								
									18	S08	230	283	256	7	14					
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_t		$\Delta \sigma_t$ DYN. ML $\times 10^3$		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	V C C
		STD	0000	2527	3648	2440		0035383		0000		15371								
157		OBS	0000	2527	36484	2440						15371								
		STD	0010	2525	3648	2441		0035366		0035		15372								
		STD	0020	2481	3648	2454		0034132		0070		15364								
157		OBS	0026	2434	36483	2468						15354								
		STD	0030	2366	3648	2488		0030912		0103		15338								
		STD	0050	2087	3644	2564		0023736		0157		15270								
157		OBS	0051	2076	36439	2567						15267								
		STD	0075	1877	3640	2616		0018875		0211		15216								
157		OBS	0077	1866	36391	2619						15213								
		STD	0100	1808	3643	2636		0017079		0256		15201								
157		OBS	0101	1806	36428	2637						15200								
		STD	0125	1782	3644	2643		0016471		0297		15197								
		STD	0150	1761	3645	2649		0015997		0338		15195								
157		OBS	0152	1760	36447	2650						15196								
		STD	0200	1733	3641	2653		0015774		0417		15195								
157		OBS	T0205	1730	36402	2653						15195								
		STD	0250	1707	3636	2656		0015701		0496		15195								
		STD	0300	1666	3628	2659		0015504		0574		15190								
157		OBS	0300	1666	36280	2659						15190								
157		OBS	T0398	1536	36063	2673						15163								
		STD	0400	1534	3606	2673		0014467		0724		15163								
		STD	0500	1401	3584	2685		0013521		0864		15134								
157		OBS	T0598	1250	35634	2700						15098								
		STD	0600	1246	3563	2701		0012186		0992		15097								
		STD	0700	1050	3540	2720		0010417		1105		15042								
157		OBS	0794	0887	35242	2735						14996								
		STD	0800	0876	3523	2736		0008862		1202		14993								
		STD	0900	0715	3514	2753		0007143		1282		14946								
157		OBS	T0995	0605	35084	2763						14918								
		STD	1000	0604	3509	2764		0006061		1348		14919								
		STD	1100	0576	3510	2768		0005671		1407		14924								
		STD	1200	0545	3512	2774		0005235		1461		14929								
157		OBS	1262	0525	35130	2777						14931								
		STD	1300	0512	3512	2778		0004885		1512		14932								
		STD	1400	0477	3509	2779		0004731		1560		14934								
		STD	1500	0440	3504	2780		0004692		1607		14935								
157		OBS	T1530	0428	35014	2779						14935								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	MARS DEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CITY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10	CRUISE NO.		STATION NUMBER	DIR			HGT	PER	SEA	TPP		A	VS		
311311		S5	3502 N	04800 W		113	58	08	06	139		1968	E15	002	4206	16	23	1	2		X1	6	6		0002
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. IM	DIR.	SPEED OR FORCE			DRY BULB	WET BULB												
									27	S13	200	257	242	7	14										
MESSAGING TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 0.1/l	TOTAL-P μg - 0.1/l	NO ₂ -N μg - 0.1/l	NO ₃ -N μg - 0.1/l	SiO ₄ -Si μg - 0.1/l	pH	S C/C								
		STD	0000	2502	3648	2448	0034660	0000	15365																
139		OBS	0000	2502	36483	2448			15365																
		STD	0010	2403	3644	2474	0032165	0033	15343																
		STD	0020	2310	3641	2499	0029815	0064	15322																
139		OBS	0028	2239	36399	2519			15305																
		STD	0030	2222	3640	2524	0027529	0093	15301																
		STD	0050	2061	3640	2568	0023353	0144	15262																
139		OBS	0054	2032	36400	2576			15255																
		STD	0075	1886	3642	2616	0018942	0197	15219																
139		OBS	0081	1856	36420	2624			15211																
		STD	0100	1803	3640	2635	0017149	0242	15199																
139		OBS	0107	1788	36392	2638			15196																
		STD	0125	1779	3641	2642	0016581	0284	15196																
		STD	0150	1766	3644	2648	0016165	0325	15197																
139		OBS	0159	1761	36449	2649			15197																
		STD	0200	1737	3643	2654	0015722	0405	15196																
139		OBS	T0212	1730	36421	2655			15196																
		STD	0250	1719	3639	2655	0015762	0483	15199																
		STD	0300	1687	3633	2658	0015623	0562	15197																
139		OBS	0312	1676	36308	2659			15195																
		STD	0400	1560	3610	2670	0014747	0714	15172																
139		OBS	T0410	1546	36077	2672			15169																
		STD	0500	1409	3585	2684	0013616	0856	15137																
		STD	0600	1242	3561	2700	0012253	0985	15095																
139		OBS	T0622	1203	35566	2704			15085																
		STD	0700	1026	3537	2721	0010207	1097	15033																
		STD	0800	0844	3520	2738	0008557	1191	14980																
139		OBS	0827	0804	35169	2742			14969																
		STD	0900	0729	3517	2753	0007144	1270	14952																
		STD	1000	0643	3517	2765	0006016	1335	14935																
139		OBS	1039	0615	35168	2769			14931																
		STD	1100	0589	3516	2771	0005432	1393	14930																
		STD	1200	0548	3514	2775	0005124	1445	14930																
		STD	1300	0509	3511	2777	0004917	1496	14931																
139		OBS	1309	0506	35107	2777			14931																
		STD	1400	0472	3508	2779	0004735	1544	14932																
		STD	1500	0437	3504	2780	0004652	1591	14934																
139		OBS	T1579	0410	35002	2780			14935																

REFERENCE		SHIP CODE	LATITUDE °	LONGITUDE °	DEPT INCH	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER	
CITY CODE	IO. NO.					10°	1°	MO	DAY		HR.	10°			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA
311311	S5	3503	N	04803	W	113	58	08	07	130	1968	E15 003	3200	15	32	1	2		X1	8	2	0003
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS				
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mb)		DRY BULB	WET BULB									
								06	508	234	272	228	7	14								

MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SiO ₄ -Si $\mu g \cdot dl/l$	pH	S CC
		STD	0000	2486	3650	2454	0034051	0000	15362								
130		OBS	0000	2486	36503	2454			15362								
		STD	0010	2337	3646	2495	0030165	0032	15327								
		STD	0020	2217	3643	2527	0027132	0061	15298								
130		OBS	0026	2159	36423	2543			15284								
		STD	0030	2141	3642	2548	0025195	0087	15280								
		STD	0050	2039	3643	2576	0022608	0135	15257								
130		OBS	0052	2027	36425	2579			15254								
		STD	0075	1868	3643	2621	0018417	0186	15214								
130		OBS	0077	1860	36428	2623			15212								
		STD	0100	1831	3650	2636	0017092	0230	15208								
130		OBS	0103	1827	36508	2638			15208								
		STD	0125	1802	3648	2642	0016640	0273	15204								
		STD	0150	1781	3645	2644	0016468	0314	15201								
130		OBS	0154	1778	36441	2645			15201								
		STD	0200	1762	3646	2650	0016090	0395	15204								
130		OBS	T0208	1758	36462	2651			15204								
		STD	0250	1737	3641	2652	0016036	0476	15204								
		STD	0300	1701	3633	2655	0015946	0556	15201								
130		OBS	0308	1694	36320	2656			15200								
		STD	0400	1594	3617	2668	0014995	0710	15183								
130		OBS	T0410	1581	36148	2669			15180								
		STD	0500	1429	3588	2682	0013817	0854	15144								
		STD	0600	1254	3563	2699	0012343	0985	15099								
130		OBS	T0611	1234	35602	2701			15094								
		STD	0700	1053	3541	2720	0010398	1099	15043								
		STD	0800	0874	3524	2737	0008756	1195	14992								
130		OBS	0816	0848	35222	2739			14985								
		STD	0900	0711	3514	2753	0007083	1274	14945								
		STD	1000	0594	3508	2764	0005955	1339	14914								
130		OBS	T1009	0586	35079	2765			14913								
		STD	1100	0569	3510	2769	0005623	1397	14921								
		STD	1200	0545	3511	2773	0005279	1451	14928								
130		OBS	1273	0525	35126	2777			14933								
		STD	1300	0517	3512	2777	0004955	1503	14934								
		STD	1400	0484	3510	2779	0004755	1551	14937								
		STD	1500	0447	3505	2780	0004715	1599	14938								
130		OBS	T1528	0436	35036	2780			14938								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY HR/10	MARS DEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.								CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	

MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SIO ₄ -Si μg - at/l	pH	3 C C
		STD	0000	2455	3643	2458	0033689	0000	15354								
131		OBS	0000	2455	36429	2458			15354								
		STD	0010	2416	3641	2468	0032729	0033	15346								
		STD	0020	2355	3640	2485	0031154	0065	15333								
131		OBS	0025	2316	36390	2496			15324								
		STD	0030	2252	3639	2515	0028393	0095	15309								
		STD	0050	2037	3640	2575	0022737	0146	15256								
131		OBS	0051	2028	36400	2577			15254								
		STD	0075	1866	3640	2620	0018572	0198	15213								
131		OBS	0076	1861	36397	2621			15212								
		STD	0100	1795	3640	2637	0016960	0242	15197								
131		OBS	0101	1793	36400	2638			15196								
		STD	0125	1765	3640	2645	0016324	0284	15192								
		STD	0150	1744	3641	2650	0015897	0324	15190								
131		OBS	0151	1743	36405	2651			15190								
		STD	0200	1725	3639	2654	0015704	0403	15192								
131		OBS	0202	1724	36393	2654			15192								
		STD	0250	1698	3634	2656	0015638	0481	15192								
		STD	0300	1660	3627	2660	0015439	0559	15188								
131		OBS	0303	1657	36267	2661			15188								
		STD	0400	1550	3608	2671	0014672	0710	15168								
131		OBS	T0404	1545	36074	2672			15167								
		STD	0500	1417	3587	2684	0013638	0851	15140								
		STD	0600	1253	3565	2701	0012178	0980	15099								
131		OBS	0604	1246	35640	2701			15098								
		STD	0700	1014	3535	2722	0010140	1092	15028								
		STD	0800	0832	3517	2738	0008583	1185	14975								
131		OBS	0804	0826	35161	2738			14973								
		STD	0900	0733	3517	2753	0007169	1264	14954								
		STD	1000	0654	3519	2765	0006032	1330	14940								
131		OBS	1005	0651	35189	2766			14939								
		STD	1100	0606	3517	2770	0005603	1388	14937								
		STD	1200	0562	3515	2774	0005249	1443	14936								
131		OBS	1257	0538	35135	2776			14935								
		STD	1300	0520	3512	2777	0004997	1494	14935								
		STD	1400	0482	3508	2778	0004873	1543	14936								
		STD	1500	0446	3503	2778	0004848	1592	14937								
131		OBS	T1523	0438	35022	2778			14938								

REFERENCE CITY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY	MARSDEN SQUARE 10° 1°	STATION TIME (GMT) MO DAY HR 1/10	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
									CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	
311311	S5		3502 N	04758 W	113 57	08 09	131	1968	E15	005	9206	15	21	2	4		X1	8 5	0005
					WATER		WIND		BARO- METER (mba)		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS		
					COLOR CODE	TRANS. IMI	DIR.	SPEED OR FORCE	DRY BULB	WET BULB									
								22	S15	179	274	254	14						

MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - \sigma_t/l$	TOTAL-P $\mu g - \sigma_t/l$	NO ₃ -N $\mu g - \sigma_t/l$	NO ₃ -N $\mu g - \sigma_t/l$	SiO ₄ -Si $\mu g - \sigma_t/l$	pH	ST CODE
		STD	0000	2447	3642	2460	0033516	0000	15352								
		OBS	0000	2447	36421	2460			15352								
		STD	0010	2443	3641	2460	0033522	0034	15352								
		STD	0020	2392	3640	2474	0032182	0066	15342								
		OBS	0021	2384	36396	2477			15340								
		STD	0030	2243	3640	2518	0028091	0097	15306								
		OBS	0045	2056	36404	2570			15260								
		STD	0050	2011	3639	2581	0022148	0147	15249								
		OBS	0070	1876	36374	2615			15215								
		STD	0075	1859	3639	2621	0018475	0198	15211								
		OBS	0096	1802	36430	2638			15198								
		STD	0100	1796	3643	2639	0016766	0242	15197								
		STD	0125	1763	3641	2646	0016220	0283	15192								
		OBS	0144	1746	36406	2650			15190								
		STD	0150	1744	3641	2650	0015897	0323	15190								
		OBS	T0188	1731	36396	2653			15192								
		STD	0200	1730	3639	2652	0015864	0402	15194								
		STD	0250	1712	3636	2654	0015853	0482	15196								
		OBS	0282	1690	36333	2658			15195								
		STD	0300	1670	3630	2660	0015450	0560	15191								
		OBS	0374	1580	36141	2669			15174								
		STD	0400	1548	3608	2671	0014628	0710	15168								
		STD	0500	1406	3585	2685	0013553	0851	15136								
		OBS	0564	1300	35697	2695			15110								
		STD	0600	1215	3558	2703	0011946	0979	15086								
		STD	0700	1009	3533	2721	0010198	1089	15026								
		OBS	0755	0915	35242	2730			15000								
		STD	0800	0855	3523	2739	0008517	1183	14985								
		STD	0900	0743	3522	2755	0006986	1261	14958								
		OBS	T0952	0695	35213	2761			14948								
		STD	1000	0672	3521	2764	0006138	1326	14947								
		STD	1100	0626	3520	2770	0005654	1385	14946								
		STD	1200	0580	3520	2775	0005164	1439	14944								
		OBS	1227	0568	35195	2777			14943								
		STD	1300	0535	3517	2779	0004843	1489	14942								
		STD	1400	0492	3512	2780	0004720	1537	14940								
		STD	1500	0449	3505	2779	0004742	1584	14939								
		OBS	1509	0445	35046	2780			14938								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE INDEX	MARSDEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			SEA- THRE CODE	DE- PTH	NO. OF SAMPLES
CTRY CODE	ID. NO.						NO	DAY		CRUISE NO	STATION NUMBER			DIR	HT	PER			
311311	S5	3502 N	04800 W	113	58	08	10	139	1968	E15	006	4297	13	16	0	2	X1		0006
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS		NO. OF OBS. DEPTHS		SPECIAL OBSERVATIONS					
		COLOR CODE	TEMP. (°C)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB						
			16	S06		193	264	241		14									
MISSING TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °C	SIGMA-T	SPECIFIC VOLUME ANOMALY-1000	S.D.D DYN. AL. x 10 ³	SOUND VELOCITY	O ₂ (ml)	PO ₄ -P μg - ml	TOTAL-P μg - ml	NO ₂ -N μg - ml	NO ₃ -N μg - ml	S ² -S μg - ml	pH	3 C		
		STD	0000	2478	3646	2453	0034165	0000	15359										
139		OBS	0000	2478	36455	2453			15359										
		STD	0010	2463	3645	2457	0033809	0034	15357										
		STD	0020	2448	3644	2461	0033490	0068	15355										
139		OBS	0022	2445	36436	2461			15355										
		STD	0030	2294	3641	2504	0029413	0099	15319										
139		OBS	0045	2072	36362	2562			15264										
		STD	0050	2022	3635	2575	0022716	0151	15251										
139		OBS	0067	1892	36330	2608			15218										
		STD	0075	1859	3635	2617	0018765	0203	15210										
139		OBS	0089	1812	36387	2632			15200										
		STD	0100	1796	3639	2636	0017041	0248	15197										
		STD	0125	1767	3641	2645	0016350	0290	15193										
139		OBS	0134	1759	36409	2647			15192										
		STD	0150	1752	3641	2649	0016048	0330	15192										
139		OBS	0179	1740	36412	2652			15194										
		STD	0200	1735	3640	2652	0015893	0410	15195										
		STD	0250	1712	3637	2655	0015744	0489	15197										
139		OBS	0267	1700	36347	2656			15195										
		STD	0300	1666	3629	2660	0015431	0567	15190										
139		OBS	T0354	1606	36191	2667			15179										
		STD	0400	1555	3609	2671	0014710	0718	15170										
		STD	0500	1423	3586	2682	0013836	0860	15142										
139		OBS	T0529	1380	35798	2686			15132										
		STD	0600	1258	3561	2697	0012567	0992	15101										
139		OBS	0698	1084	35405	2714			15054										
		STD	0700	1079	3540	2714	0010942	1110	15052										
		STD	0800	0870	3525	2738	0008617	1208	14991										
139		OBS	T0871	0762	35174	2749			14960										
		STD	0900	0749	3517	2751	0007423	1288	14960										
		STD	1000	0699	3517	2757	0006838	1359	14957										
139		OBS	1096	0647	35166	2764			14953										
		STD	1100	0645	3517	2764	0006213	1424	14953										
		STD	1200	0586	3514	2770	0005704	1484	14945										
		STD	1300	0522	3510	2775	0005142	1538	14936										
139		OBS	T1330	0502	35095	2777			14932										

REFERENCE		SHIP CODE	LATITUDE ° ' /10	LONGITUDE ° ' /10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NDOC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311	311	S5	3502 N	04758 W		113	57	08	11	132	1968	E15	007	4206	14	17	1	3		X1	8	2	0007
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		22	510	203	296	270	7	14	

22	510	203	296	270	7	14			
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MESSENGER TIME HR. /10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANDALTY-10 ³	$\Sigma \Delta D$ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	TOTAL-P µg - at/l	NO ₃ -N µg - at/l	NO ₂ -N µg - at/l	SiO ₄ -Si µg - at/l	pH	SC
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		STD	0000	2495	3644	2446	0034766	0000	15363								
132		OBS	0000	2495	36440	2446			15363								
		STD	0010	2469	3642	2453	0034198	0034	15359								
		STD	0020	2402	3640	2471	0032465	0068	15344								
132		OBS	0022	2384	36399	2477			15340								
		STD	0030	2250	3640	2516	0028302	0098	15308								
132		OBS	0045	2056	36394	2569			15260								
		STD	0050	2011	3639	2581	0022148	0149	15249								
132		OBS	0068	1901	36389	2610			15221								
		STD	0075	1896	3638	2610	0019447	0201	15221								
132		OBS	0090	1878	36369	2614			15218								
		STD	0100	1841	3639	2625	0018129	0248	15210								
		STD	0125	1772	3642	2645	0016358	0291	15194								
132		OBS	0135	1754	36431	2650			15191								
		STD	0150	1750	3642	2650	0015928	0331	15192								
132		OBS	T0181	1739	36405	2652			15194								
		STD	0200	1731	3639	2652	0015872	0411	15194								
		STD	0250	1704	3635	2656	0015704	0490	15194								
132		OBS	0269	1692	36325	2657			15193								
		STD	0300	1672	3629	2659	0015568	0568	15192								
132		OBS	T0357	1623	36204	2664			15185								
		STD	0400	1566	3610	2669	0014880	0720	15174								
		STD	0500	1415	3585	2683	0013741	0863	15139								
132		OBS	0531	1363	35773	2688			15126								
		STD	0600	1219	3557	2701	0012096	0992	15087								
		STD	0700	1032	3535	2719	0010459	1105	15035								
132		OBS	0709	1016	35332	2720			15030								
		STD	0800	0865	3523	2737	0008681	1201	14988								
132		OBS	T0892	0746	35170	2751			14958								
		STD	0900	0740	3517	2752	0007306	1281	14957								
		STD	1000	0668	3517	2762	0006371	1349	14945								
		STD	1100	0607	3517	2770	0005618	1409	14938								
132		OBS	1127	0592	35162	2771			14936								
		STD	1200	0556	3515	2775	0005164	1463	14933								
		STD	1300	0517	3512	2777	0004955	1513	14934								
132		OBS	T1369	0496	35094	2778			14937								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA		TYPE
311311	S5		3502 N	04758 W	113	57	08	12	147	1968	E15	008	4206	15	23	2	3		X1	8	4	0008
				WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
				COLOR CODE	TRANS. (m)	DIR	SPEED OR FORCE	(mbars)		DRY BULB	WET BULB											
							21	S16	224	300	270	6	14									
MESSAGE TIME OF HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot ml/l$	TOTAL-P $\mu g \cdot ml/l$	NO ₂ -N $\mu g \cdot ml/l$	NO ₃ -N $\mu g \cdot ml/l$	SiO ₄ -Si $\mu g \cdot ml/l$	pH			S C C		
		STD	0000	2494	3643	2446	0034787		0000	15363												
147		OBS	0000	2494	36433	2446				15363												
		STD	0010	2353	3643	2488	0030828		0033	15331												
		STD	0020	2239	3643	2521	0027726		0062	15304												
147		OBS	0025	2192	36424	2534				15293												
		STD	0030	2168	3642	2540	0025932		0089	15287												
147		OBS	0049	2062	36401	2568				15262												
		STD	0050	2054	3640	2570	0023173		0138	15260												
147		OBS	0072	1903	36367	2608				15222												
		STD	0075	1889	3637	2611	0019348		0191	15219												
147		OBS	0099	1799	36405	2637				15198												
		STD	0100	1798	3641	2637	0016958		0237	15198												
		STD	0125	1770	3641	2644	0016384		0278	15194												
147		OBS	0146	1753	36414	2649				15192												
		STD	0150	1752	3641	2649	0016048		0319	15192												
147		OBS	T0197	1734	36401	2652				15195												
		STD	0200	1732	3640	2653	0015823		0398	15195												
		STD	0250	1701	3634	2656	0015707		0477	15193												
147		OBS	0292	1669	36285	2659				15190												
		STD	0300	1663	3627	2659	0015508		0555	15189												
147		OBS	T0387	1579	36129	2668				15176												
		STD	0400	1565	3610	2669	0014858		0707	15173												
		STD	0500	1434	3589	2682	0013850		0851	15146												
147		OBS	T0581	1305	35712	2695				15115												
		STD	0600	1258	3565	2700	0012276		0981	15101												
		STD	0700	1039	3537	2719	0010439		1095	15038												
147		OBS	0775	0907	35241	2731				15000												
		STD	0800	0875	3524	2737	0008772		1191	14992												
		STD	0900	0760	3522	2753	0007250		1271	14965												
147		OBS	T0971	0694	35209	2761				14951												
		STD	1000	0678	3521	2763	0006265		1339	14949												
		STD	1100	0623	3519	2769	0005712		1399	14944												
		STD	1200	0573	3517	2775	0005231		1453	14941												
147		OBS	1242	0553	35167	2776				14939												
		STD	1300	0526	3515	2778	0004862		1504	14938												
		STD	1400	0484	3510	2779	0004755		1552	14937												
		STD	1500	0445	3504	2779	0004761		1599	14937												
147		OBS	T1527	0435	35020	2779				14937												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER				
CTRY CODE	IO. NO.					10"	1"		MO	DAY			HR./10	CRUISE NO.	STATION NUMBER		DIR.	HGT		PER	SEA	TYPE	AMT
311311	55		3502 N	04800 W	113	58	08	13	135	1968	E15	009	4114	18	23	2	3		X1	8	3		0009
						WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB											
							22	S13		234	264	253	7	14									

MESSAGE TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C C
		STD	0000	2490	3643	2447	0034721	0000	15362								
135		OBS	0000	2490	36426	2447			15362								
		STD	0010	2421	3641	2467	0032893	0034	15347								
		STD	0020	2335	3640	2491	0030581	0066	15328								
135		OBS	0027	2266	36386	2510			15311								
		STD	0030	2218	3638	2524	0027544	0095	15300								
		STD	0050	1967	3635	2590	0021300	0143	15236								
135		OBS	0053	1940	36350	2597			15229								
		STD	0075	1828	3635	2625	0018020	0193	15201								
135		OBS	0080	1812	36350	2629			15198								
		STD	0100	1789	3642	2640	0016673	0236	15195								
135		OBS	0107	1782	36437	2643			15194								
		STD	0125	1763	3641	2646	0016220	0277	15192								
		STD	0150	1744	3639	2649	0016006	0317	15190								
135		OBS	0161	1738	36386	2650			15190								
		STD	0200	1737	3639	2651	0015983	0397	15196								
135		OBS	T0221	1731	36398	2653			15198								
		STD	0250	1712	3636	2655	0015817	0477	15196								
		STD	0300	1672	3629	2659	0015568	0555	15192								
135		OBS	0327	1646	36244	2661			15188								
		STD	0400	1560	3609	2669	0014820	0707	15172								
135		OBS	0443	1502	35993	2675			15159								
		STD	0500	1404	3583	2684	0013656	0850	15135								
		STD	0600	1233	3559	2700	0012222	0979	15092								
135		OBS	T0676	1105	35435	2712			15058								
		STD	0700	1053	3539	2718	0010544	1093	15043								
		STD	0800	0868	3523	2737	0008730	1189	14990								
		STD	0900	0731	3514	2751	0007387	1270	14953								
135		OBS	0905	0725	35136	2751			14951								
		STD	1000	0670	3515	2760	0006526	1339	14946								
		STD	1100	0615	3517	2769	0005734	1401	14941								
135		OBS	T1133	0598	35176	2772			14939								
		STD	1200	0560	3515	2774	0005221	1455	14935								
		STD	1300	0510	3510	2776	0005004	1507	14931								
		STD	1400	0470	3507	2779	0004781	1555	14931								
135		OBS	1446	0454	35052	2779			14932								
		STD	1500	0438	3504	2780	0004665	1603	14934								
		STD	1750	0397	3498	2779	0004776	1721	14958								
135		OBS	T1765	0396	34978	2779			14960								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NEUTRIC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	N/O DAY HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
311311	55	3500 N	04757 W	113	57	08 14 218	1968	E15	010		4206	16	27	1	4		X1	8	3		0010	
						WATER		WIND		BARO- METER		AIR TEMP °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	(mba)	DRY BULB	WET BULB										
								25	507	213	274	253	7	14								
MESSING TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S Δ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C					
		STD	0000	2524	3637	2432	0036101	0000	15369													
218		OBS	0000	2524	36372	2432			15369													
		STD	0010	2379	3637	2476	0031962	0034	15336													
		STD	0020	2244	3638	2516	0028245	0064	15305													
218		OBS	0026	2168	36378	2537			15286													
		STD	0030	2111	3636	2552	0024863	0091	15272													
		STD	0050	1899	3634	2607	0019721	0135	15217													
218		OBS	0052	1884	36338	2610			15213													
		STD	0075	1807	3640	2634	0017157	0181	15196													
218		OBS	0078	1800	36404	2636			15195													
		STD	0100	1773	3639	2642	0016492	0223	15190													
218		OBS	0104	1769	36391	2643			15190													
		STD	0125	1767	3640	2644	0016400	0265	15193													
		STD	0150	1762	3641	2646	0016303	0305	15195													
218		OBS	0157	1760	36409	2647			15196													
		STD	0200	1741	3640	2651	0016011	0386	15197													
218		OBS	T0210	1735	36401	2652			15197													
		STD	0250	1706	3634	2655	0015823	0466	15194													
		STD	0300	1663	3627	2659	0015508	0544	15189													
218		OBS	0315	1649	36240	2660			15187													
		STD	0400	1553	3608	2670	0014738	0695	15169													
218		OBS	T0420	1528	36038	2673			15164													
		STD	0500	1406	3586	2686	0013480	0836	15136													
		STD	0600	1245	3565	2702	0012021	0964	15097													
218		OBS	T0626	1202	35596	2707			15086													
		STD	0700	1058	3542	2720	0010415	1076	15045													
		STD	0800	0888	3523	2734	0009061	1174	14997													
218		OBS	0834	0836	35189	2739			14983													
		STD	0900	0739	3515	2750	0007437	1256	14956													
		STD	1000	0624	3510	2762	0006238	1324	14927													
218		OBS	T1042	0586	35092	2766			14918													
		STD	1100	0568	3509	2769	0005631	1384	14921													
		STD	1200	0536	3509	2773	0005307	1438	14925													
		STD	1300	0504	3509	2776	0004986	1490	14928													
218		OBS	1311	0500	35091	2777			14928													
		STD	1400	0471	3507	2779	0004795	1539	14931													
		STD	1500	0439	3503	2779	0004752	1587	14934													
218		OBS	T1587	0411	34987	2779			14937													

REFERENCE		SHIP CODE	LATITUDE ° 1' 10"	LONGITUDE ° 1' 10"	DATE MO DAY HR	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NDDC STATION NUMBER	
CITY CODE	IO. NO.					10'	1"	MO	DAY	HR		CRUISE NO.	STATION NUMBER			DIP	HGT	PER		SEA	TYPE		AMT
311	311	S5	35 02 N	04 75 6 W	113	57	08	15	198	1968	E 15	011		4297	14	28	2	4		X1	3	3	0011
						WATER		WIND		AIR TEMP. °C													
						COLOR	TRANS	DIR.	SPEED	BARO-		DRY	WET	VIS.	NO.								
						CODE	(m)		OF	METER		BULB	BULB	CODE	OBS.								
									FORCE	(mb)					DEPTHS								
								21	513	210		275	253	7	14								

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-RT	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	TOTAL-P µg - at/l	NO ₂ -N µg - at/l	NO ₃ -N µg - at/l	SiO ₄ -Si µg - at/l	pH	SC
		STD	0000	2518	3636	2434	0035998	0000	15368								
198		OBS	0000	2518	36362	2434			15368								
		STD	0010	2363	3640	2483	0031324	0034	15333								
		STD	0020	2220	3642	2526	0027285	0063	15299								
198		OBS	0022	2193	36424	2534			15293								
		STD	0030	2074	3640	2565	0023613	0088	15263								
198		OBS	0044	1925	36392	2604			15224								
		STD	0050	1900	3642	2612	0019165	0131	15219								
198		OBS	0067	1845	36481	2631			15207								
		STD	0075	1832	3648	2634	0017166	0177	15204								
198		OBS	0088	1813	36481	2639			15201								
		STD	0100	1804	3648	2641	0016578	0219	15200								
		STD	0125	1786	3648	2646	0016224	0260	15199								
198		OBS	0132	1781	36485	2647			15199								
		STD	0150	1778	3648	2648	0016151	0300	15201								
198		OBS	0177		36472												
		STD	0200	1760	3645	2650	0016116	0381	15203								
		STD	0250	1729	3639	2653	0015994	0461	15202								
198		OBS	0263	1719	36373	2654			15201								
		STD	0300	1686	3632	2658	0015672	0540	15196								
198		OBS	T0347	1633	36235	2664			15187								
		STD	0400	1543	3606	2671	0014663	0692	15166								
		STD	0500	1372	3576	2685	0013502	0833	15124								
198		OBS	T0516	1345	35722	2688			15117								
		STD	0600	1196	3552	2702	0012017	0960	15078								
198		OBS	0683	1057	35374	2716			15041								
		STD	0700	1028	3535	2720	0010388	1072	15033								
		STD	0800	0870	3525	2738	0008617	1168	14991								
198		OBS	T0864	0784	35197	2747			14968								
		STD	0900	0742	3518	2752	0007263	1247	14957								
		STD	1000	0640	3514	2763	0006178	1314	14934								
		STD	1100	0562	3510	2770	0005488	1372	14919								
198		OBS	1108	0557	35099	2771			14918								
		STD	1200	0507	3508	2775	0004993	1425	14913								
		STD	1300	0476	3506	2777	0004829	1474	14916								
198		OBS	T1367	0468	35051	2777			14924								

REFERENCE		SHIP CODE	LATITUDE °	LONGITUDE °	DEPTH INDIC	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER								
CTRY CODE	IO. NO.					10°	1°	MO	DAY	HR./10	CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT									
311	311	S5	3502 N	04800 W		113	58	08	16	142	1968	E15 012	A206	15	22	4	4		X1	8	3	0012								
WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																				
COLOR CODE	TRANS. mm	DIR.	SPEED OR FORCE	mmHg	mbars	DRY BULB	WET BULB																							
		21	522	186	263	248	7	14																						
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ O OYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C													
		STD	0000	2458	3631	2448	0034646	0000	15353																					
142		OBS	0000	2458	36308	2448			15353																					
		STD	0010	2345	3636	2485	0031109	0033	15328																					
		STD	0020	2232	3640	2521	0027753	0062	15302																					
142		OBS	0022	2209	36411	2528			15297																					
		STD	0030	2101	3642	2559	0024169	0088	15270																					
142		OBS	0045	1945	36449	2603			15231																					
		STD	0050	1912	3646	2612	0019170	0132	15222																					
142		OBS	0066	1832	36486	2635			15203																					
		STD	0075	1809	3647	2639	0016697	0176	15197																					
142		OBS	0089	1783	36452	2644			15192																					
		STD	0100	1781	3646	2645	0016208	0218	15193																					
		STD	0125	1774	3647	2648	0016028	0258	15195																					
142		OBS	0134	1771	36477	2649			15196																					
		STD	0150	1767	3647	2650	0015950	0298	15198																					
142		OBS	0180		36462																									
		STD	0200	1744	3644	2653	0015813	0377	15199																					
		STD	0250	1707	3636	2656	0015701	0456	15195																					
142		OBS	0284	1673	36295	2659			15190																					
		STD	0300	1651	3626	2661	0015307	0534	15185																					
142		OBS	T0390	1526	36044	2674			15159																					
		STD	0400	1512	3602	2675	0014279	0681	15156																					
		STD	0500	1368	3578	2687	0013275	0819	15123																					
142		OBS	T0586	1230	35598	2701			15089																					
		STD	0600	1200	3556	2704	0011803	0945	15080																					
		STD	0700	1002	3535	2724	0009929	1053	15024																					
142		OBS	0791	0850	35210	2738			14981																					
		STD	0800	0836	3520	2740	0008428	1145	14977																					
		STD	0900	0702	3515	2755	0006874	1222	14942																					
142		OBS	T0995	0604	35116	2766			14918																					
		STD	1000	0601	3512	2766	0005798	1285	14918																					
		STD	1100	0547	3510	2772	0005256	1340	14912																					
		STD	1200	0500	3509	2777	0004817	1391	14910																					
142		OBS	1226	0489	35088	2778			14910																					
		STD	1300	0460	3506	2779	0004612	1438	14910																					
		STD	1400	0426	3502	2780	0004552	1484	14912																					
142		OBS	T1451	0411	34995	2779			14914																					

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER		
						10"	1"	MO		DAY	HR./10			CRUISE NO.	STATION NUMBER	DIR.	HGT		PER	SEA		TYPE	AMT
311	311	S5	3501 N	04801 W	113	58	08	17	138	1968	E15	013	4251	41	23	2	4		X1	5	6		0013
WATER			WIND			BARO- METER (mb)			AIR TEMP. °C			VIS. CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS									
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mb)	CRY BULB	WET BULB																	
			27	S09	149	242	224	6	20														

MESSENGER TIME OF MR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ O DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{ml}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₂ -N $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{ml}^{-1}$	SiO ₄ -Si $\mu\text{g} \cdot \text{ml}^{-1}$	pH	TEMP
		STD	0000	2440	3628	2451	0034324	0000	15348								
138		OBS	0000	2440	36281	2451			15348								
		STD	0010	2431	3630	2455	0033968	0034	15348								
		STD	0020	2422	3632	2460	0033601	0068	15348								
138		OBS	0023	2419	36322	2460			15348								
		STD	0030	2272	3633	2504	0029422	0099	15313								
138		OBS	0048	1987	36333	2583			15241								
		STD	0050	1968	3634	2589	0021427	0150	15236								
138		OBS	0071	1822	36362	2628			15199								
		STD	0075	1812	3637	2631	0017494	0199	15197								
138		OBS	0095	1772	36381	2642			15189								
		STD	0100	1768	3638	2643	0016454	0241	15189								
		STD	0125	1746	3639	2648	0015996	0282	15186								
138		OBS	0143	1731	36389	2652			15185								
		STD	0150	1725	3638	2653	0015637	0321	15184								
138		OBS	T0193	1690	36316	2656			15180								
		STD	0200	1687	3631	2657	0015437	0399	15180								
		STD	0250	1657	3627	2661	0015208	0476	15179								
138		OBS	0285	1628	36228	2664			15175								
		STD	0300	1610	3619	2666	0014891	0551	15172								
138		OBS	T0373	1522	36039	2674			15155								
		STD	0400	1500	3600	2676	0014165	0696	15152								
		STD	0500	1385	3584	2689	0013189	0833	15129								
138		OBS	T0562	1290	35720	2699			15106								
		STD	0600	1198	3560	2708	0011473	0956	15080								
		STD	0700	0987	3534	2726	0009740	1062	15018								
138		OBS	0737	0920	35274	2732			14999								
		STD	0800	0826	3521	2742	0008193	1152	14973								
		STD	0900	0699	3513	2754	0006975	1228	14940								
138		OBS	T0916	0681	35123	2756			14936								
		STD	1000	0630	3511	2762	0006274	1294	14929								
		STD	1100	0576	3509	2767	0005774	1354	14924								
		STD	1200	0528	3507	2772	0005364	1410	14921								
		STD	1300	0487	3505	2775	0005052	1462	14921								
		STD	1400	0452	3503	2778	0004821	1512	14923								
138		OBS	T1402	0451	35031	2778			14923								
		STD	1500	0433	3502	2779	0004743	1559	14932								
		STD	1750	0395	3500	2781	0004603	1676	14958								
170		OBS	T1940	0372	34983	2782			14980								
		STD	2000	0368	3498	2782	0004587	1791	14988								
170		OBS	2445	0336	34972	2785			15051								
		STD	2500	0332	3497	2785	0004524	2019	15058								
170		OBS	T2941	0297	34961	2788			15119								
		STD	3000	0292	3496	2788	0004327	2240	15128								
170		OBS	T3448	0258	34929	2789			15191								
170		OBS	3946	0232	34905	2789			15267								
		STD	4000	0232	3490	2789	0004284	2671	15276								
170		OBS	4062	0231	34903	2789			15287								
170		OBS	T4104	0231	34900	2789			15294								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDIC	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CITY CODE	IO. NO.						MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
311311		S5	3458 N	04759 W		113 47	08	18	138	1968	E15 014		4206	15	23	1	4		X1	6	2		0014
		WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS. CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS												
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB																		
			23	S08	179		296	242	7	14													
MESSNGR TIME OF HR. 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ DYN. M x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SIO ₄ -Si μg - ml/l	pH	S C C						
		STD	0000	2423	3610	2443	0035114	0000	15342														
138		OBS	0000	2423	36104	2443			15342														
		STD	0010	2346	3624	2476	0032002	0034	15327														
		STD	0020	2258	3632	2507	0029037	0064	15308														
138		OBS	0024	2219	36346	2521			15299														
		STD	0030	2135	3633	2543	0025709	0091	15278														
138		OBS	0049	1933	36320	2596			15226														
		STD	0050	1927	3632	2598	0020546	0138	15225														
138		OBS	0073	1819	36354	2628			15199														
		STD	0075	1812	3635	2630	0017610	0185	15197														
138		OBS	0098	1752	36360	2645			15183														
		STD	0100	1750	3636	2645	0016193	0228	15183														
		STD	0125	1730	3636	2650	0015828	0268	15181														
138		OBS	0147	1711	36357	2655			15179														
		STD	0150	1708	3635	2655	0015462	0307	15179														
138		OBS	T0197	1664	36276	2660			15172														
		STD	0200	1662	3627	2660	0015158	0383	15172														
		STD	0250	1624	3621	2664	0014899	0458	15168														
138		OBS	0295	1584	36149	2669			15163														
		STD	0300	1579	3614	2669	0014565	0532	15162														
138		OBS	T0390	1485	35977	2678			15145														
		STD	0400	1472	3595	2678	0013928	0675	15142														
		STD	0500	1334	3574	2691	0012873	0809	15111														
138		OBS	T0591	1192	35550	2705			15076														
		STD	0600	1172	3553	2707	0011487	0930	15070														
		STD	0700	0975	3532	2726	0009678	1036	15014														
138		OBS	0786	0835	35195	2739			14974														
		STD	0800	0815	3519	2742	0008164	1125	14969														
		STD	0900	0693	3515	2757	0006739	1200	14938														
138		OBS	T0974	0624	35132	2765			14923														
		STD	1000	0614	3513	2766	0005867	1263	14923														
		STD	1100	0577	3513	2770	0005509	1320	14925														
		STD	1200	0539	3512	2775	0005129	1373	14926														
138		OBS	1232	0527	35120	2776			14927														
		STD	1300	0501	3510	2777	0004879	1423	14927														
		STD	1400	0462	3506	2779	0004744	1471	14927														
138		OBS	T1480	0430	35009	2778			14927														

REFERENCE		SHIP CODE	LATITUDE 1°/10'	LONGITUDE 1°/10'	DRIFT ANGLE 10° 1°	MARSDEN SQUARE MO DAY HR./10	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOCC STATION NUMBER
CRUISE CODE	ID. NO.						CRUISE NO.	STATION NUMBER		DIR	HGT			PER	SEA	TYPE		AMT		
311311	55	3502 N	04800 W	113 58	08 19	135	1968	E15	015		4252	13	22	2	4		X1	5 6		0015

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		23	520	146	250	238	6	14	

MESSING TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - at/l$	TOTAL-P $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	SiO ₄ -Si $\mu g - at/l$	pH	3 C
		STD	0000	2409	3615	2451	0034355	0000	15340								
135		OBS	0000	2409	36154	2451			15340								
		STD	0010	2401	3616	2453	0034167	0034	15339								
		STD	0020	2393	3616	2456	0033979	0068	15339								
135		OBS	0023	2391	36156	2456			15339								
		STD	0030	2181	3624	2523	0027577	0099	15289								
135		OBS	0040	1969	36327	2587			15235								
		STD	0050	1931	3633	2597	0020580	0147	15226								
135		OBS	0063	1875	36338	2612			15213								
		STD	0075	1808	3636	2631	0017471	0195	15196								
135		OBS	0084	1770	36368	2641			15186								
		STD	0100	1747	3637	2647	0016080	0237	15182								
135		OBS	0124	1717	36364	2654			15177								
		STD	0125	1716	3636	2654	0015490	0276	15177								
		STD	0150	1691	3633	2657	0015218	0315	15173								
135		OBS	T0162	1680	36313	2659			15172								
		STD	0200	1660	3628	2661	0015040	0390	15172								
135		OBS	0245	1624	36218	2665			15167								
		STD	0250	1618	3621	2665	0014765	0465	15166								
		STD	0300	1559	3611	2671	0014342	0538	15155								
135		OBS	T0316	1538	36078	2674			15151								
		STD	0400	1414	3587	2685	0013288	0676	15123								
135		OBS	0448	1342	35766	2692			15106								
		STD	0500	1273	3566	2698	0012237	0803	15090								
135		OBS	0575	1144	35503	2710			15056								
		STD	0600	1073	3543	2718	0010386	0916	15034								
		STD	0700	0835	3522	2741	0008081	1009	14960								
135		OBS	T0715	0806	35198	2744			14952								
		STD	0800	0713	3517	2755	0006733	1083	14930								
		STD	0900	0624	3514	2765	0005803	1146	14911								
135		OBS	0962	0580	35121	2769			14903								
		STD	1000	0557	3511	2771	0005217	1201	14900								
		STD	1100	0512	3510	2776	0004798	1251	14898								
		STD	1200	0489	3509	2778	0004675	1298	14905								
135		OBS	T1287	0487	35084	2778			14919								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY HR.1 10	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CHIT CODE	ID. NO.								CRUISE NO.	STATION NUMBER			DR.	HGT	PER		TIME	AMT	
311311		S5	3502 N	04800 W	113 58 08 20 137	1968	E15 016		4252	14	33	1	3			X1	6	2	0016
		WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
COLOR CODE	TRANSP. (m)	DIR.	SPEED OR FORCE	DIR.	DRY BULB		WET BULB												
			32	518	183	263	210	7	14										
MESSAGE TIME HR. 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	SALINITY DYN. M x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SIO ₄ -Si μg - ml/l	pH	S C C		
		STD	0000	2414	3620	2452	0034195	0000	15341										
137		OBS	0000	2414	36196	2452			15341										
		STD	0010	2325	3626	2484	0031273	0033	15322										
		STD	0020	2230	3630	2514	0028421	0063	15300										
137		OBS	0024	2190	36310	2526			15291										
		STD	0030	2117	3631	2546	0025381	0089	15273										
137		OBS	0046	1950	36310	2591			15231										
		STD	0050	1912	3631	2601	0020242	0135	15221										
137		OBS	0068	1789	36323	2633			15189										
		STD	0075	1774	3635	2639	0016741	0181	15186										
137		OBS	0090	1746	36380	2648			15180										
		STD	0100	1733	3636	2650	0015798	0222	15178										
		STD	0125	1704	3631	2653	0015577	0261	15173										
137		OBS	0135	1694	36301	2654			15172										
		STD	0150	1681	3629	2657	0015280	0300	15170										
137		OBS	0179	1657	36274	2661			15167										
		STD	0200	1644	3625	2662	0014896	0375	15167										
		STD	0250	1605	3618	2666	0014693	0449	15162										
137		OBS	0267	1589	36145	2667			15159										
		STD	0300	1551	3606	2669	0014530	0522	15152										
137		OBS	T0357	1485	35930	2674			15139										
		STD	0400	1450	3590	2679	0013824	0664	15135										
		STD	0500	1330	3576	2694	0012646	0796	15110										
137		OBS	T0536	1274	35684	2699			15096										
		STD	0600	1126	3544	2709	0011282	0916	15053										
		STD	0700	0929	3518	2723	0009916	1022	14995										
137		OBS	0705	0920	35172	2724			14993										
		STD	0800	0771	3514	2745	0007838	1111	14952										
137		OBS	T0883	0671	35115	2757			14926										
		STD	0900	0660	3511	2758	0006522	1183	14925										
		STD	1000	0599	3510	2766	0005850	1244	14917										
		STD	1100	0550	3509	2771	0005364	1301	14914										
137		OBS	1134	0536	35091	2773			14914										
		STD	1200	0513	3508	2774	0005076	1353	14915										
		STD	1300	0488	3508	2777	0004846	1402	14922										
137		OBS	T1388	0475	35067	2778			14931										

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	ORBIT INCHES	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311311	S5	3502 N	04803 W	113	58	08	21	132	1968	E15	017	4389	15	35	1	4		X1	8	3	0017
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB			
		15	S06	234	254	202	7	14	

15	S06	234	254	202	7	14			
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MESSENGER TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{el/l}$	TOTAL-P $\mu\text{g} \cdot \text{el/l}$	NO ₂ -N $\mu\text{g} \cdot \text{el/l}$	NO ₃ -N $\mu\text{g} \cdot \text{el/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{el/l}$	pH	S C
		STD	0000	2450	3634	2453	0034186	0000	15351								
132		OBS	0000	2450	36340	2453			15351								
		STD	0010	2357	3633	2480	0031639	0033	15331								
		STD	0020	2262	3633	2507	0029103	0063	15309								
132		OBS	0025	2213	36323	2520			15297								
		STD	0030	2151	3633	2538	0026160	0091	15282								
		STD	0050	1955	3634	2592	0021124	0138	15233								
132		OBS	0051	1947	36338	2594			15231								
		STD	0075	1821	3635	2627	0017853	0187	15199								
132		OBS	0076	1817	36350	2628			15198								
		STD	0100	1739	3636	2648	0015952	0229	15180								
132		OBS	0101	1736	36358	2649			15179								
		STD	0125	1704	3633	2654	0015432	0268	15173								
		STD	0150	1678	3631	2659	0015066	0307	15169								
132		OBS	0152	1676	36309	2659			15169								
		STD	0200	1647	3627	2663	0014819	0381	15168								
132		OBS	T0206	1642	36258	2663			15167								
		STD	0250	1597	3618	2668	0014515	0455	15160								
		STD	0300	1543	3609	2673	0014138	0526	15150								
132		OBS	0305	1537	36081	2674			15149								
		STD	0400	1422	3588	2684	0013382	0664	15125								
132		OBS	T0406	1415	35869	2684			15124								
		STD	0500	1326	3575	2694	0012638	0794	15109								
		STD	0600	1191	3559	2708	0011412	0914	15077								
132		OBS	T0611	1174	35574	2710			15073								
		STD	0700	0968	3533	2728	0009484	1019	15011								
		STD	0800	0788	3515	2743	0008030	1106	14958								
132		OBS	0812	0770	35138	2745			14953								
		STD	0900	0679	3513	2757	0006670	1180	14932								
		STD	1000	0597	3512	2767	0005690	1241	14916								
132		OBS	T1015	0587	35121	2769			14915								
		STD	1100	0554	3512	2773	0005229	1296	14916								
		STD	1200	0518	3510	2775	0004998	1347	14917								
132		OBS	1269	0495	35092	2778			14919								
		STD	1300	0485	3509	2779	0004732	1396	14920								
		STD	1400	0455	3506	2780	0004649	1443	14924								
		STD	1500	0429	3502	2779	0004689	1489	14930								
132		OBS	T1528	0422	35012	2779			14932								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10	CRUISE NO.	STATION NUMBER			DIR	WGT	PER	SEA		TYPE	AMT	

WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS	
COLOR CODE	TRANS- (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB	VIS. CODE					
		21	515	176	274	237	6	14			

MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S °.	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	D_2 m/l	$PO_4=P$ $\mu g - \sigma_t/l$	TOTAL-P $\mu g - \sigma_t/l$	$NO_2=N$ $\mu g - \sigma_t/l$	$NO_3=N$ $\mu g - \sigma_t/l$	$SiO_4=Si$ $\mu g - \sigma_t/l$	pH	S C C
		STD	0000	2385	3631	2470	0032545	0000	15336								
130		OBS	0000	2385	36311	2470			15336								
		STD	0010	2316	3633	2491	0030519	0032	15321								
		STD	0020	2234	3634	2516	0028241	0061	15302								
130		OBS	0025	2189	36342	2529			15291								
		STD	0030	2123	3634	2547	0025322	0088	15275								
		STD	0050	1916	3634	2602	0020145	0133	15222								
130		OBS	0050	1916	36339	2602			15222								
		STD	0075	1790	3634	2634	0017176	0180	15190								
130		OBS	0075	1790	36342	2634			15190								
		STD	0100	1713	3631	2651	0015692	0221	15172								
130		OBS	0100	1713	36311	2651			15172								
		STD	0125	1690	3631	2656	0015257	0260	15169								
130		OBS	0149	1668	36294	2660			15166								
		STD	0150	1667	3629	2660	0014962	0297	15166								
		STD	0200	1619	3622	2666	0014554	0371	15159								
130		OBS	0200	1619	36220	2666			15159								
		STD	0250	1576	3612	2668	0014486	0444	15152								
		STD	0300	1525	3603	2673	0014183	0515	15144								
130		OBS	0300	1525													
		STD	0400	1402	3586	2687	0013105	0652	15119								
130		OBS	T0400	1402	35861	2687			15119								
		STD	0500	1316	3575	2696	0012437	0780	15105								
		STD	0600	1190	3560	2709	0011320	0898	15077								
130		OBS	T0605	1183	35587	2710			15075								
		STD	0700	0977	3534	2728	0009566	1003	15015								
		STD	0800	0805	3517	2742	0008151	1091	14965								
130		OBS	0814	0785	35153	2744			14959								
		STD	0900	0692	3514	2756	0006797	1166	14937								
		STD	1000	0607	3512	2766	0005847	1229	14920								
130		OBS	1022	0591	35118	2768			14917								
		STD	1100	0560	3511	2771	0005387	1285	14918								
		STD	1200	0523	3510	2775	0005067	1338	14919								
130		OBS	1283	0495	35086	2777			14922								
		STD	1300	0489	3508	2777	0004860	1387	14922								
		STD	1400	0459	3506	2779	0004703	1435	14926								
		STD	1500	0431	3503	2780	0004643	1482	14931								
130		OBS	T1543	0420	35010	2779			14933								

REFERENCE		SHIP CODE	LATITUDE ° ' /10	LONGITUDE ° ' /10	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CITY CODE	ID. NO.					10°	1°	MO	DAY	HR./10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	amt	

311311	S5	3501 N	04801 W	113	58	08	23	140	1968	E15	019		4206	15	25	2	4		X6	5	8	0019
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

28			S15	163	246	243	5	14	
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MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -Si μg - ml/l	pH	S °C
		STD	0000	2464	3621	2438	0035561	0000	15353								
140		OBS	0000	2464	36205	2438			15353								
		STD	0010	2342	3626	2479	0031746	0034	15326								
		STD	0020	2228	3630	2514	0028367	0064	15300								
140		OBS	0027	2153	36323	2537			15282								
		STD	0030	2119	3632	2547	0025340	0091	15274								
		STD	0050	1929	3632	2597	0020581	0136	15226								
140		OBS	0053	1906	36323	2603			15220								
		STD	0075	1787	3634	2634	0017156	0184	15189								
140		OBS	0079	1772	36337	2638			15186								
		STD	0100	1735	3635	2648	0015946	0225	15178								
140		OBS	0104	1729	36348	2650			15177								
		STD	0125	1701	3632	2654	0015436	0264	15172								
		STD	0150	1672	3629	2659	0015075	0302	15167								
140		OBS	0155	1667	36280	2659			15166								
		STD	0200	1633	3624	2664	0014722	0377	15163								
140		OBS	T0206	1628	36228	2664			15162								
		STD	0250	1584	3616	2669	0014372	0450	15155								
		STD	0300	1529	3607	2675	0013979	0521	15145								
140		OBS	0304	1524	36061	2675			15144								
140		OBS	T0399	1406	35864	2686			15120								
		STD	0400	1405	3586	2686	0013174	0656	15120								
		STD	0500	1315	3572	2694	0012635	0785	15105								
140		OBS	T0594	1193	35570	2706			15077								
		STD	0600	1180	3555	2707	0011494	0906	15073								
		STD	0700	0974	3533	2727	0009588	1011	15014								
140		OBS	0796	0810	35192	2743			14967								
		STD	0800	0804	3519	2744	0007989	1099	14965								
		STD	0900	0669	3515	2760	0006382	1171	14929								
140		OBS	0994	0575	35116	2770			14906								
		STD	1000	0573	3511	2769	0005440	1230	14906								
		STD	1100	0535	3510	2773	0005112	1283	14908								
		STD	1200	0502	3508	2776	0004925	1333	14911								
140		OBS	1256	0486	35067	2777			14913								
		STD	1300	0474	3506	2777	0004802	1382	14916								
		STD	1400	0450	3504	2779	0004728	1429	14922								
		STD	1500	0431	3502	2779	0004716	1477	14931								
140		OBS	T1518	0428	35013	2779			14932								

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DEPT ADJUST	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE DEPTH OF STAMP	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10'	1'	MO	DAY	HR	10		CRUISE NO.	STATION NUMBER			CA	HGT	PER		SEA	TYPE	
311311	S5	3501 N	04803 W	113	58	08	24	133	1968	E15	020			3658	16	24	1		X1	6	5	0020	
						WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB	VIS CODE											
									23	508	146	264	235	6	14								
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY (δ _s)	SOUND VELOCITY m/s	Q2	PO ₄ -P μg - 0.1	TOTAL-P μg - 0.1	NO ₂ -N μg - 0.1	NO ₃ -N μg - 0.1	SIO ₄ -S μg - 0.1	PH	C	C						
		STD	0000	2394	3610	2451	0034348	0000	15335														
133	OBS	0000	2394	36096	2451				15335														
	STD	0010	2242	3620	2503	0029429	0032	15301															
	STD	0020	2116	3628	2544	0025534	0059	15271															
133	OBS	0027	2042	36317	2567			15253															
	STD	0030	2020	3632	2573	0022830	0084	15247															
	STD	0050	1894	3632	2606	0019772	0126	15216															
133	OBS	0054	1872	36316	2612			15210															
	STD	0075	1779	3632	2635	0017083	0172	15187															
133	OBS	0081	1759	36320	2640			15182															
	STD	0100	1722	3632	2649	0015834	0213	15174															
133	OBS	0108	1708	36312	2652			15171															
	STD	0125	1690	3630	2655	0015329	0252	15169															
	STD	0150	1662	3626	2659	0015066	0290	15164															
133	OBS	0162	1648	36246	2661			15161															
	STD	0200	1597	3616	2666	0014501	0364	15151															
133	OBS	0218	1577	36126	2668			15147															
	STD	0250	1568	3612	2670	0014311	0436	15150															
	STD	0300	1539	3608	2673	0014123	0507	15149															
133	OBS	0329	1515	36040	2676			15145															
	STD	0400	1425	3589	2684	0013372	0645	15126															
133	OBS	T0440	1371	35812	2689			15114															
	STD	0500	1284	3568	2697	0012309	0773	15094															
	STD	0600	1134	3548	2710	0011139	0890	15056															
133	OBS	T0660	1041	35376	2719			15032															
	STD	0700	0958	3531	2728	0009458	0993	15007															
	STD	0800	0784	3519	2747	0007674	1079	14957															
133	OBS	0877	0682	35122	2756			14930															
	STD	0900	0663	3512	2758	0006514	1150	14926															
	STD	1000	0592	3511	2767	0005707	1211	14914															
133	OBS	T1091	0542	35096	2772			14909															
	STD	1100	0540	3510	2772	0005211	1266	14910															
	STD	1200	0518	3509	2775	0005079	1317	14917															
	STD	1300	0494	3508	2777	0004906	1367	14924															
133	OBS	1372	0476	35078	2779			14929															
	STD	1400	0469	3507	2779	0004767	1415	14930															
	STD	1500	0442	3505	2780	0004647	1463	14936															
133	OBS	1647	0401	34996	2780			14943															

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	GRT NO.	MARS DEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR	1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311311	55	3502 N	04800 W	113	58	08	25	143	1968	E15	021		4160	15	24	3	4			X1	8	2	0021
						WATER		WIND		BARO-		AIR TEMP. °C											
						COLOR	TRANS.	DIR.	SPEED	METER	DRY	WET	VIS	NO.	NO.								
						CODE	UNIT		OR	(mb)	BULB	BULB	CODE	DEPTHS	DEPTHS								
									25	515	186	241	187	7	14								

MESSINGR TIME OF HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	DATE
		STD	0000	2375	3627	2470	0032558	0000	15333								
143		OBS	0000	2375	36270	2470			15333								
		STD	0010	2375	3627	2470	0032602	0033	15334								
		STD	0020	2374	3627	2470	0032635	0065	15336								
143		OBS	0023	2374	36266	2470			15336								
		STD	0030	2229	3629	2513	0028505	0096	15302								
		STD	0050	1931	3634	2598	0020485	0145	15226								
143		OBS	0050	1931	36343	2598			15226								
		STD	0075	1808	3634	2630	0017616	0192	15196								
143		OBS	0076	1804	36340	2631			15195								
		STD	0100	1730	3634	2648	0015903	0234	15177								
143		OBS	0100	1730	36336	2648			15177								
		STD	0125	1705	3633	2654	0015455	0273	15173								
		STD	0150	1680	3630	2658	0015155	0312	15170								
143		OBS	0150	1680	36304	2658			15170								
		STD	0200	1627	3622	2664	0014718	0386	15161								
143		OBS	0200	1627	36222	2664			15161								
		STD	0250	1586	3615	2668	0014489	0459	15156								
143		OBS	0298	1541	36078	2673			15149								
		STD	0300	1539	3607	2673	0014196	0531	15148								
143		OBS	T0393	1437	35912	2683			15129								
		STD	0400	1429	3590	2684	0013383	0669	15128								
		STD	0500	1306	3571	2695	0012528	0799	15102								
143		OBS	T0590	1176	35541	2707			15070								
		STD	0600	1156	3552	2709	0011258	0918	15064								
		STD	0700	0969	3533	2728	0009501	1021	15012								
143		OBS	0792	0821	35198	2742			14970								
		STD	0800	0809	3519	2743	0008068	1109	14967								
		STD	0900	0673	3512	2757	0006661	1183	14930								
143		OBS	0993	0581	35084	2766			14908								
		STD	1000	0578	3508	2767	0005700	1245	14908								
		STD	1100	0542	3508	2771	0005334	1300	14910								
		STD	1200	0509	3508	2775	0005006	1352	14913								
143		OBS	1251	0494	35082	2777			14916								
		STD	1300	0481	3508	2778	0004750	1400	14919								
		STD	1400	0456	3506	2779	0004663	1447	14925								
		STD	1500	0436	3503	2779	0004711	1494	14933								
143		OBS	T1512	0434	35026	2779			14934								

REFERENCE		SHIP CODE	LATITUDE ° ' 10	LONGITUDE ° ' 10	DATE MO DAY HR 10	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR	10	CRUISE NO	STATION NUMBER		DIR	HGT	PER	SEA	TYPE	AMT			
311311	55		3502 N	04802 W	113 58 08 26 136	1968	E15	022				4206	14	34	1	5			X1	8	5		0022
		WATER		WIND		BARD- METER		AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
COLOR CODE	TRANS IMT	DIR.	SPEED KTS	DIR.	SPEED KTS	DRY BULB	WET BULB	DRY BULB	WET BULB														
05	S10		217			242	190	7	14														
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ° ..	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S. D. DYN. V. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \times \text{dl/l}$	TOTAL-P $\mu\text{g} \times \text{dl/l}$	NO ₂ -N $\mu\text{g} \times \text{dl/l}$	NO ₃ -N $\mu\text{g} \times \text{dl/l}$	SiO ₄ -Si $\mu\text{g} \times \text{dl/l}$	pH	S C						
		STD	0000	2366	3627	2472	0032306	0000	15330														
136		OBS	0000	2366	36270	2472			15330														
		STD	0010	2363	3627	2473	0032270	0032	15331														
		STD	0020	2360	3627	2474	0032235	0065	15332														
136		OBS	0022	2359	36266	2474			15332														
		STD	0030	2207	3630	2520	0027840	0095	15296														
136		OBS	0045	1987	36333	2583			15241														
		STD	0050	1939	3633	2596	0020756	0143	15228														
136		OBS	0067	1818	36335	2627			15197														
		STD	0075	1793	3636	2635	0017116	0191	15191														
136		OBS	0090	1755	36392	2647			15183														
		STD	0100	1746	3638	2648	0015955	0232	15182														
		STD	0125	1717	3635	2653	0015586	0271	15177														
136		OBS	0135	1702	36340	2655			15174														
		STD	0150	1668	3632	2662	0014767	0309	15166														
136		OBS	0181	1612	36270	2671			15154														
		STD	0200	1607	3624	2670	0014141	0381	15155														
		STD	0250	1582	3617	2671	0014256	0452	15155														
136		OBS	0274	1564	36128	2671			15153														
		STD	0300	1536	3608	2674	0014058	0523	15148														
136		OBS	T0367	1458	35948	2681			15132														
		STD	0400	1410	3588	2686	0013132	0659	15121														
		STD	0500	1265	3569	2702	0011861	0784	15088														
136		OBS	T0553	1187																			
		STD	0600	1120	3551	2715	0010661	0897	15052														
		STD	0700	0972	3536	2730	0009334	0997	15013														
136		OBS	0743	0906	35295	2736			14995														
		STD	0800	0794	3521	2747	0007684	1082	14961														
		STD	0900	0641	3509	2759	0006414	1152	14917														
136		OBS	T0926	0610	35075	2762			14909														
		STD	1000	0577	3508	2766	0005738	1213	14908														
		STD	1100	0536	3508	2772	0005280	1268	14908														
136		OBS	1179	0507	35081	2775			14909														
		STD	1200	0500	3508	2776	0004898	1319	14910														
		STD	1300	0467	3505	2777	0004780	1367	14913														
		STD	1400	0438	3501	2777	0004786	1415	14917														
136		OBS	T1426	0431	35000	2777			14916														

REFERENCE		SHIP CODE	LATITUDE ° ' /10	LONGITUDE ° ' /10	MARS SQUARE	STATION TIME IGMT				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER	
CTRY CODE	IO. NO.					10"	1"	MO	DAY	HR./10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT		
311	311	S5	3502 N	04802 W	113	58	08	27	190	1968	E15	023	3931	13	04	1	3		X1	8	3	0023
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB																	
		03	512	193	257	191	7	14														
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S. Δ O. DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C					
		STD	0000	2349	3627	2477	0031815	0000	15326													
190		OBS	0000	2349	36272	2477			15326													
		STD	0010	2346	3629	2480	0031640	0032	15327													
		STD	0020	2342	3631	2482	0031470	0063	15328													
190		OBS	0021	2342	36307	2482			15328													
		STD	0030	2180	3632	2530	0026973	0093	15289													
190		OBS	0043	2005	36333	2578			15245													
		STD	0050	1959	3634	2591	0021202	0141	15234													
190		OBS	0064	1873	36344	2613			15212													
		STD	0075	1806	3634	2630	0017540	0189	15195													
190		OBS	0085	1760	36344	2642			15183													
		STD	0100	1747	3636	2646	0016152	0231	15182													
		STD	0125	1726	3638	2653	0015597	0271	15180													
190		OBS	0127	1724	36379	2653			15180													
		STD	0150	1704	3634	2655	0015443	0310	15177													
190		OBS	T0171	1684	36311	2658			15175													
		STD	0200	1650	3626	2662	0014959	0386	15168													
		STD	0250	1592	3616	2668	0014549	0459	15158													
190		OBS	0254	1587	36155	2668			15157													
		STD	0300	1533	3606	2673	0014138	0531	15146													
190		OBS	T0336	1491	35993	2677			15138													
		STD	0400	1418	3589	2685	0013226	0668	15124													
		STD	0500	1294	3571	2697	0012289	0796	15098													
190		OBS	T0502	1291	35705	2697			15097													
		STD	0600	1157	3551	2709	0011350	0914	15065													
190		OBS	0665	1058	35397	2718			15039													
		STD	0700	0987	3535	2727	0009667	1019	15019													
		STD	0800	0812	3522	2745	0007896	1107	14968													
190		OBS	T0827	0772	35197	2749			14957													
		STD	0900	0690	3515	2757	0006694	1180	14937													
		STD	1000	0597	3510	2766	0005851	1242	14916													
190		OBS	1054	0557	35082	2769			14909													
		STD	1100	0528	3507	2772	0005236	1298	14904													
		STD	1200	0483	3505	2776	0004887	1348	14902													
		STD	1300	0461	3504	2777	0004773	1397	14910													
190		OBS	T1302	0461	35038	2777			14910													

TABLE X.—Observed and interpolated oceanographic data for stations taken by USCGC CHASE at Ocean Station ECHO, 1–22 September 1968, prepared from NODC listing No. 31–8502

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARSSEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES		WAVE OBSERVATIONS					WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CITY CODE	ID. NO.					MO	DAY		HR. 1/10	CRUISE NO.		STATION NUMBER	DIR.	HGT.	PER	SEA	TYPE	AMT				
																				10"	1"	
31B	502	E1	3500 N	04800 W	113	58	09	01	060	1968	E16	001	4390	03	00	0	0		X1	0	3	0001
				WATER		WIND		BARO- METER		AIR TEMP °C		VLS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mb)		DRY BULB	WET BULB											
				DT	SD	18	502	196		233	228	7	14									
MESSING TIME HR. 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANDMAL-8107	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₂ -P µg - at/l	TOTAL-P µg - at/l	NO ₃ -N µg - at/l	NO ₃ -N µg - at/l	SiO ₂ -S µg - at/l	pH	S C C					
		STD	0000	2353	3626	2476	0031999	0000	15327													
060		OBS	0000	2353	36262	2476			15327													
		OBS	0008		36260																	
		STD	0010		3622																	
004		OBS	0010		36220																	
		STD	0020		3626																	
		OBS	0020		36262																	
		STD	0030		3631																	
		OBS	0030		36312																	
		STD	0050		3632																	
		OBS	0050		36321																	
		OBS	0061		36281																	
		STD	0075		3635																	
		OBS	0075		36352																	
		STD	0100		3639																	
		OBS	0100		36387																	
		STD	0125		3634																	
		OBS	0125		36335																	
		STD	0150		3629																	
		OBS	0150		36293																	
		STD	0200		3622																	
		OBS	0200		36222																	
		STD	0250		3614																	
		OBS	0250		36142																	
		OBS	0270		36099																	

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOCC STATION NUMBER			
CTRY CODE	IO. NO.					MO	DAY	HR./10		CRUISE NO.	STATION NUMBER		DIR	HGT	PER	SEA		TYPE	AMT				
31B	502	E1	3500 N	04800 W	113	58	09	01	121	1968	E16	002	4352	03	19			2	X1	0	3		0002
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mbars)		DRY BULB	WET BULB											
					DT	SD	21	502	210		283	244	7	13									
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta O$ DTN. M. $\times 10^3$	SOUND VELOCITY		O ₂ ml/l	PO ₂ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SiO ₂ -Si $\mu g \cdot dl/l$	pH				
		STD	0000	2358	3626	2474		0032139		0000	15328												
	121	OBS	0000	2358	36262	2474					15328												
		STD	0010		3626																		
		OBS	0010		36262																		
		STD	0020		3626																		
	001	OBS	0020		36262																		
		STD	0030		3628																		
		OBS	0030		36278																		
		STD	0050		3632																		
		OBS	0050		36318																		
		STD	0075		3640																		
		OBS	0075		36398																		
		STD	0100		3641																		
		OBS	0100		36406																		
		STD	0125		3635																		
		OBS	0125		36349																		
		STD	0150		3633																		
		OBS	0150		36326																		
		STD	0200		3626																		
		OBS	0200		36261																		
		STD	0250		3614																		
		OBS	0250		36137																		
		STD	0300		3607																		
		OBS	0300		36068																		
		OBS	0308		1522	36068	2676			15144													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT MO/HR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPLE'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT	
31BS02	E1		3500 N	04800 W		113	58	09	02	118	1968	E16	005		3840	03	33		2	X1	0	3	0005	
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	(mbal)	DRY BULB	WET BULB												
						DT	SD	33	S06	207	317	239	7	15										
MESSING TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-207		Σ Δ D DTN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C						
		STD	0000	2374	3624	2468	0032732		0000	15332														
118		OBS	0000	2374	36242	2468				15332														
		STD	0010		3624																			
		OBS	0010		36242																			
		STD	0020		3618																			
006		OBS	0020		36176																			
		STD	0030		3628																			
		OBS	0030		36282																			
		OBS	0036		36312																			
		OBS	0042		36165																			
		STD	0050		3633																			
		OBS	0050		36331																			
		STD	0075		3636																			
		OBS	0075		36358																			
		STD	0100		3638																			
		OBS	0100		36376																			
		STD	0125		3635																			
		OBS	0125		36345																			
		STD	0150		3630																			
		OBS	0150		36303																			
		STD	0200		3622																			
		OBS	0200		36222																			
		STD	0250		3613																			
		OBS	0250		36125																			
		STD	0300		3605																			
		OBS	0300		36048																			
		OBS	0320	1500	36048	2680				15139														

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT	
31BS02	E1		3501 N	04803 W		113	58	09	02	178	1968	E16	006		4407	03	18		4	X1	0	3	0006	
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	(mba)	DRY BULB	WET BULB												
						DT	SD	31	S04	193	261	211	7	14										
MESSING TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-207		Σ Δ D DTN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C						
178		STD	0000	2475	3630	2442	0035201		0000	15357														
		OBS	0000	2475	36299	2442				15357														
001		STD	0010		3630																			
		OBS	0010		36301																			
		STD	0020		3631																			
		OBS	0020		36307																			
		STD	0030		3631																			
		OBS	0030		36305																			
		OBS	0035		36383																			
		STD	0050		3629																			
		OBS	0050		36293																			
		STD	0075		3638																			
		OBS	0075		36380																			
		STD	0100		3643																			
		OBS	0100		36432																			
		STD	0125		3639																			
		OBS	0125		36386																			
		STD	0150		3637																			
	OBS	0150		36373																				
	STD	0200		3630																				
	OBS	0200		36302																				
	STD	0250		3621																				
	OBS	0250		36205																				
	OBS	0298		36161																				
	STD	0300		1537	3616	2680	0013492		0730	15149														
	OBS	0300		1537	36161	2680				15149														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE 1/10	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER			
CTRY CODE	IO. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE	AMT	
31BS02	E1		3500 N	04800 W	113	58	09	02	238	1968	E16	007	4297	03	33			3	X1	0	3	0007		
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mb)	DRY BULB	WET BULB												
						DT	SD	29	S02	207	233	206	7	13										
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t		Δ ρ CYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S CC						
		STD	0000	2426	3631	2457	0033751		0000	15345														
238		OBS	0000	2426	36305	2457				15345														
		STD	0010		3625																			
		OBS	0010		36247																			
		STD	0020		3631																			
001		OBS	0020		36308																			
		STD	0030		3626																			
		OBS	0030		36259																			
		OBS	0044		36317																			
		STD	0050		3630																			
		OBS	0050		36298																			
		STD	0075		3636																			
		OBS	0075		36356																			
		STD	0100		3635																			
		OBS	0100		36353																			
		STD	0125		3634																			
		OBS	0125		36338																			
		STD	0150		3630																			
		OBS	0150		36303																			
		STD	0200		3621																			
		OBS	0200		36214																			
		STD	0250		3612																			
		OBS	0250		36118																			
		STD	0300	1518	3605	2676	0013901		0715	15142														
		OBS	0300	1518	36048	2676				15142														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE 1/10	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	IO. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE	
31BS02	E1		3501 N	04803 W	113	58	09	03	059	1968	E16	008	4435	03	31			2	X1	0	3	0008
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
						DT	SD	28	S04	200	228	206	7	13								
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Δ ρ CYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S CC			
		STD	0000	2406	3627	2461	0033413		0000	15340												
059		OBS	0000	2406	36273	2461				15340												
		STD	0010		3625																	
		OBS	0010		36245																	
		STD	0020		3626																	
001		OBS	0020		36263																	
		STD	0030		3629																	
		OBS	0030		36293																	
		STD	0050		3631																	
		OBS	0050		36313																	
		STD	0075		3630																	
		OBS	0075		36303																	
		STD	0100		3632																	
		OBS	0100		36321																	
		STD	0125		3631																	
		OBS	0125		36312																	
		STD	0150		3630																	
		OBS	0150		36300																	
		STD	0200		3622																	
		OBS	0200		36223																	
		STD	0250		3614																	
		OBS	0250		36135																	
		OBS	0299		36073																	
		STD	0300	1525	3607	2676	0013870		0709	15144												
		OBS	0300	1525	36073	2676				15144												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPT INDIC	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE	
31	BS02	E1	3500 N	04800 W	113	58	09	03	238	1968	E16	011	4206	03	26		2	X1	0	3	0011	
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
		COLOR CODE	TRANS. IMI	DIR.	SPEED OR FORCE	DRY BULB		WET BULB														
		DT	SD	26	508	207	239	206	7	18												
MESSAGE TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ O DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C C					
238		STD	0000	2396	3611	2451	0034326	0000	15336	15336												
		OBS	0000	2396	36107	2451																
002		OBS	0004		36107																	
		STD	0010		3626																	
		OBS	0010		36257																	
		STD	0020		3626																	
		OBS	0020		36257																	
		OBS	0026		36067																	
		STD	0030		3626																	
		OBS	0030		36258																	
		OBS	0048		36216																	
		STD	0050		3627																	
		OBS	0050		36267																	
		STD	0075		3643																	
		OBS	0075		36427																	
		OBS	0084		36338																	
		OBS	0094		36415																	
		STD	0100		3634																	
		OBS	0100		36343																	
		STD	0125		3634																	
	OBS	0125		36336																		
	STD	0150		3632																		
	OBS	0150		36317																		
	STD	0200		3627																		
	OBS	0200		36274																		
	OBS	0238	1598	36192	2669			15158														
	STD	0250		3616																		
	OBS	0250		36157																		
	STD	0300		3602																		
	OBS	0300		36017																		

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPT INDIC	MARS SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER					
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE	AMT			
31	BS02	E1	3501 N	04803 W		113	58	09	04	057	1968	E16	012		4389	03	28		2	X1	0	3		0012		
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
		COLOR CODE	TRANS. IMI	DIR.	SPEED OR FORCE	BARO- METER (mb)		DRY BULB		WET BULB																
		DT	SD	23	S14	200		239		211		7						13								
MESSAGE TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ O DYN. M. $\times 10^3$		SOUND VELOCITY		O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C C					
		STD	0000	2396	3624	2461		0033360		0000		15337														
057		OBS	0000	2396	36241	2461						15337														
		STD	0010		3624																					
		OBS	0010		36240																					
		STD	0020		3625																					
001		OBS	0020		36251																					
		STD	0030		3626																					
		OBS	0030		36260																					
		STD	0050		3632																					
		OBS	0050		36316																					
		STD	0075		3631																					
		OBS	0075		36310																					
		STD	0100		3629																					
		OBS	0100		36294																					
		STD	0125		3629																					
		OBS	0125		36294																					
		STD	0150		3628																					
		OBS	0150		36281																					
		STD	0200		3622																					
		OBS	0200		36223																					
		STD	0250	1558	3611	2671		0014172		0594		15147														
		OBS	0250	1558	36109	2671						15147														
		OBS	0270		36081																					
		OBS	0290		36059																					

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO DAY HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
318502	E1		3500 N	04800 W	113	58	09	04 119	1968	E16	013	4023	03	25			2	X1	0	3	0013
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mba)	DRY BULB	WET BULB										
					DT	SD	25	S09	207	244	233	7	13								

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S CL
		STD	0000	2384	3629	2468	0032689	0000	15335								
119		OBS	0000	2384	36287	2468			15335								
		STD	0010		3628												
		OBS	0010		36277												
		STD	0020		3625												
002		OBS	0020		36250												
		OBS	0025		36190												
		STD	0030		3630												
		OBS	0030		36299												
		STD	0050		3629												
		OBS	0050		36294												
		STD	0075		3642												
		OBS	0075		36424												
		STD	0100		3646												
		OBS	0100		36458												
		STD	0125		3644												
		OBS	0125		36439												
		STD	0150		3643												
		OBS	0150		36430												
		STD	0200		3629												
		OBS	0200		36285												
		STD	0250		3620												
		OBS	0250		36199												
		OBS	0259	1597	36189	2669			15161								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARSSEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	IO. NO.					10"	1"	MO DAY HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
318502	E1		3501 N	04803 W	113	58	09	04 179	1968	E16	014	4297	03	32	3	3		X1	0	3	0014
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mba)		DRY BULB	WET BULB									
					DT	SD	23	S12	204	247	236	7	16								

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S CL
		STD	0000	2424	3636	2462	0033305	0000	15345								
179		OBS	0000	2424	36359	2462			15345								
		STD	0010		3632												
		OBS	0010		36320												
		STD	0020		3634												
001		OBS	0020		36340												
		STD	0030		3628												
		OBS	0030		36275												
		OBS	0037		36227												
		OBS	0043		36349												
		STD	0050		3629												
		OBS	0050		36289												
		STD	0075		3634												
		OBS	0075		36340												
		STD	0100		3646												
		OBS	0100		36462												
		STD	0125		3642												
		OBS	0125		36420												
		OBS	0136		36369												
		STD	0150		3640												
		OBS	0150		36398												
		STD	0200		3626												
		OBS	0200		36262												
		OBS	0244	1601	36182	2667			15160								
		STD	0250		3617												
		OBS	0250		36168												
		OBS	0270		36132												

REFERENCE		SHIP	LATITUDE	LONGITUDE	DRIFT	MARSOEN		STATION TIME			YEAR	ORIGINATOR'S		DEPTH	MAX.	WAVE				WEA-	CLOUD		NODC	
CTRY	ID.	CODE	°	° 1/10	°	10"	1"	MO	DAY	HR.1/10		CRUISE	STATION	TO	DEPTH	DIR	HGT	PER	SEA	THER	TYPE	AMT	STATION	
CODE	NO.											NO.	NUMBER	BOTTOM	OF					CODE			NUMBER	
31	BS02	E1	3502 N	04801 W		113	58	09	04	239	1968	E16	015	4297	03	32	3	3		X1	0	3	0015	
						WATER		WIND		BARO-		AIR TEMP. °C												
						COLOR	TRANS	DIR.	SPEED	METER		DRY	WET	VIS.	NO.									
						CODE	(m)		OF	(mb)		BULB	BULB	CODE	OBS.									
						DT	SD	26	S09	212	240	235	7	13										
MESSNGR		CST	CARD	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME		Σ Δ	SOUND	O ₂ ml/l	PO ₄ -P	TOTAL-P	NO ₃ -N	NO ₃ -N	SiO ₄ -Si	pH					
TIME		NO.	TYPE							ANOMALY-σ _t	DYN. M.	VELOCITY		μg - at/l	μg - at/l	μg - at/l	μg - at/l	μg - at/l						
HR 1/10											X 10 ³													
			STD	0000	2410	3636	2466		0032907	0000		15342												
	239		OBS	0000	2410	36359	2466					15342												
			STD	0010		3636																		
			OBS	0010		36360																		
			STD	0020		3634																		
	001		OBS	0020		36339																		
			STD	0030		3631																		
			OBS	0030		36306																		
			STD	0050		3622																		
			OBS	0050		36220																		
			STD	0075		3628																		
			OBS	0075		36279																		
			STD	0100		3633																		
			OBS	0100		36329																		
			STD	0125		3635																		
			OBS	0125		36351																		
			STD	0150		3633																		
			OBS	0150		36325																		
			STD	0200		3627																		
			OBS	0200		36270																		
			OBS	0248	1603	36180	2667					15161												
			STD	0250		3618																		
			OBS	0250		36180																		
			OBS	0270		36149																		

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDEXT	MARSOEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
31	BS02	E1	3502 N	04804 W		113	58	09	05	058	1968	E16	016	3292	03	32	3	3		X2	0	3	0016
		WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB																		
DT	SD	23	S08	201	246	236	7											12					
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C						
		STD	0000	2400	3636	2469	0032601	0000	15340														
	058	OBS	0000	2400	36362	2469			15340														
		STD	0010		3636																		
		OBS	0010		36361																		
		STD	0020		3635																		
	001	OBS	0020		36348																		
		STD	0030		3632																		
		OBS	0030		36323																		
		STD	0050		3624																		
		OBS	0050		36242																		
		STD	0075		3628																		
		OBS	0075		36283																		
		STD	0100		3632																		
		OBS	0100		36323																		
		STD	0125		3635																		
		OBS	0125		36351																		
		STD	0150		3632																		
		OBS	0150		36323																		
		STD	0200		3623																		
		OBS	0200		36232																		
		STD	0250	1595	3617	2667	0014557	0589	15159														
		OBS	0250	1595	36168	2667			15159														
		OBS	0277		36123																		

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE MO DAY HR.1/10	MARSDEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.						CRUISE NO.	STATION NUMBER		DIR	HGT			PER	SEA	TYPE		AMT		
31BS02	E1		3500 N	04800 W	113 58 09 05 120	1968	E16	017		4297	02	28				3	X1	0	3	0017
		WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB															
DT	SD	23	S11	186	256	239	7	12												
MESSNGR TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t ?	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₃ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S CTD			
		STD	0000	2404	3636	2468	0032758	0000	15341											
120		OBS	0000	2404	36356	2468			15341											
		STD	0010		3633															
		OBS	0010		36331															
		STD	0020		3632															
002		OBS	0020		36316															
		STD	0030		3633															
		OBS	0030		36326															
		OBS	0038		36281															
		STD	0050		3631															
		OBS	0050		36311															
		STD	0075		3630															
		OBS	0075		36299															
		STD	0100		3633															
		OBS	0100		36331															
		STD	0125		3632															
		OBS	0125		36321															
		STD	0150		3628															
		OBS	0150		36279															
		STD	0200		3621															
		OBS	0200		36213															
		STD	0250		3612															
		OBS	0250		36121															

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE MO DAY HR.1/10	MARSDEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.						CRUISE NO.	STATION NUMBER		DIR	HGT			PER	SEA	TYPE		AMT		
31BS02	E1		3501 N	04802 W	113 58 09 05 179	1968	E16	018		3840	03	26				2	X1	0	3	0018
		WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB															
DT	SD	25	S17	179	267	239	7	12												
MESSNGR TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t ?	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₃ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S CTD			
		STD	0000	2446	3631	2452	0034280	0000	15350											
179		OBS	0000	2446	36311	2452			15350											
		STD	0010		3628															
		OBS	0010		36281															
		STD	0020		3632															
001		OBS	0020		36316															
		STD	0030		3631															
		OBS	0030		36311															
		STD	0050		3630															
		OBS	0050		36301															
		STD	0075		3629															
		OBS	0075		36285															
		STD	0100		3632															
		OBS	0100		36321															
		STD	0125		3633															
		OBS	0125		36331															
		STD	0150		3631															
		OBS	0150		36311															
		STD	0200		3622															
		OBS	0200		36218															
		STD	0250		3616															
		OBS	0250		36155															
		OBS	0272	1574	36101	2667			15155											

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		TYPE	AMT	

31BS02 E1 3500 N 04800 W 113 58 09 05 238 1968 E16 019 4389 03 28 2 X1 0 3 0019

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

DT SD 23 512 193 244 233 7 12

MESSENGER TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	SCC
		STD	0000	2432	3633	2457	0033771	0000	15347								
238		OBS	0000	2432	36326	2457			15347								
		STD	0010		3633												
		OBS	0010		36326												
		STD	0020		3611												
001		OBS	0020		36106												
		STD	0030		3631												
		OBS	0030		36308												
		STD	0050		3612												
		OBS	0050		36121												
		STD	0075		3629												
		OBS	0075		36286												
		STD	0100		3634												
		OBS	0100		36336												
		STD	0125		3633												
		OBS	0125		36328												
		STD	0150		3632												
		OBS	0150		36318												
		STD	0200		3624												
		OBS	0200		36237												
		STD	0250		3616												
		OBS	0250		36155												
		OBS	0271	1572	36136	2670			15155								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		TYPE	AMT	

31BS02 E1 3501 N 04803 W 113 58 09 06 059 1968 E16 020 4371 03 28 2 X1 0 3 0020

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

DT SD 24 507 183 239 233 7 12

MESSENGER TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	SCC
		STD	0000	2423	3634	2460	0033442	0000	15345								
059		OBS	0000	2423	36336	2460			15345								
		STD	0010		3634												
		OBS	0010		36335												
		STD	0020		3627												
001		OBS	0020		36273												
		STD	0030		3632												
		OBS	0030		36323												
		STD	0050		3628												
		OBS	0050		36278												
		STD	0075		3627												
		OBS	0075		36268												
		STD	0100		3632												
		OBS	0100		36318												
		STD	0125		3631												
		OBS	0125		36308												
		STD	0150		3630												
		OBS	0150		36297												
		STD	0200		3622												
		OBS	0200		36216												
		STD	0250		3612												
		OBS	0250		36116												
		OBS	0272	1547	36098	2673			15147								

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DEPTH INCHES	MAPSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	TYPE (AMT)	NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER					SEA
318502	E1		3500 N	04800 W		113	58	09	07	001	1968	E16 023	4361	03	23			3	X1	0 3		0023
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
						DT	SD	20	S17	183	239	222	7	14								
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ D. DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH					
		STD	0000	2431	3631	2456	0033836		0000	15347												
	001	OBS	0000	2431	36313	2456				15347												
		STD	0010		3630																	
		OBS	0010		36301																	
		STD	0020		3632																	
	001	OBS	0020		36318																	
		STD	0030		3626																	
		OBS	0030		36264																	
		OBS	0034		36214																	
		OBS	0044		36305																	
		STD	0050		3629																	
		OBS	0050		36288																	
		STD	0075		3631																	
		OBS	0075		36313																	
		STD	0100		3634																	
		OBS	0100		36343																	
		STD	0125		3635																	
		OBS	0125		36354																	
		STD	0150		3632																	
		OBS	0150		36322																	
		STD	0200		3627																	
		OBS	0200		36271																	
		STD	0250	1584	3614	2668	0014496		0604	15155												
		OBS	0250	1584	36143	2668				15155												
		OBS	0270		36131																	

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INCHES	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT	
318502	E1		3501 N	04803 W		113	58	09	07	057	1968	E16 024	4206	03	23			3	X2	0 3		0024	
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB										
						DT	SD	18	S13	176	239	233	7	13									
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C					
		STD	0000	2430	3631	2456	0033865		0000	15346													
	057	OBS	0000	2430	36305	2456				15346													
		STD	0010		3633																		
		OBS	0010		36325																		
		STD	0020		3634																		
	002	OBS	0020		36335																		
		STD	0030		3633																		
		OBS	0030		36325																		
		OBS	0044		36260																		
		STD	0050		3632																		
		OBS	0050		36322																		
		STD	0075		3631																		
		OBS	0075		36305																		
		STD	0100		3635																		
		OBS	0100		36351																		
		STD	0125		3634																		
		OBS	0125		36342																		
		STD	0150		3629																		
		OBS	0150		36289																		
		STD	0200		3620																		
		OBS	0200		36196																		
		STD	0250	1564	3612	2671	0014201		0601	15149													
		OBS	0250	1564	36123	2671				15149													
		OBS	0271		36120																		

REFERENCE		SHIP CODE	LATITUDE °	LONGITUDE °	DRIFT DIRECTION	MARSden SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
31BS02	E1		3500 N	04800 W		113	58	09	07	118	1968	E16	025	4361	03	20		3	X1	0	3		0025
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. IM	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB										
						DT	SD	18	S08	173	250	233	7	13									

MESSENGER TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - at/l$	TOTAL-P $\mu g - at/l$	NO ₂ -N $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	SiO ₄ -Si $\mu g - at/l$	pH	S C
		STD	0000	3633													
118		OBS	0000	36330													
		STD	0010	3632													
		OBS	0010	36324													
		STD	0020	3634													
001		OBS	0020	36337													
		STD	0030	3630													
		OBS	0030	36296													
		OBS	0045	36140													
		STD	0050	3629													
		OBS	0050	36294													
		STD	0075	3632													
		OBS	0075	36315													
		STD	0100	3634													
		OBS	0100	36342													
		STD	0125	3635													
		OBS	0125	36352													
		STD	0150	3636													
		OBS	0150	36362													
		STD	0200	3632													
		OBS	0200	36321													
		STD	0250	3615													
		OBS	0250	36152													
		OBS	0270	36132													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT DIRECTION	MARSden SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT FEET	SEA		TYPE	AMT	
31BS02	E1		3501 N	04803 W		113	58	09	07	178	1968	E16	026	4297	03	21		3	X1	0	3	0026
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. IM	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB									
						OT	SD	16	S17	149	256	239	7	14								

MESSENGER TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - at/l$	TOTAL-P $\mu g - at/l$	NO ₂ -N $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	SiO ₄ -Si $\mu g - at/l$	pH	S C
		STD	0000	2446	3632	2452	0034215	0000	15350								
178		OBS	0000	2446	36320	2452			15350								
		STD	0010	3631													
		OBS	0010	36311													
		STD	0020	3633													
001		OBS	0020	36331													
		STD	0030	3620													
		OBS	0030	36204													
		OBS	0040	36279													
		OBS	0046	36201													
		STD	0050	3626													
		OBS	0050	36261													
		STD	0075	3630													
		OBS	0075	36304													
		STD	0100	3633													
		OBS	0100	36330													
		STD	0125	3633													
		OBS	0125	36331													
		STD	0150	3630													
		OBS	0150	36300													
		STD	0200	3621													
		OBS	0200	36210													
		STD	0250	1558	3610	2671	0014237	0606	15146								
		OBS	0250	1558	36100	2671			15146								
		OBS	0270	36041													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT INDEX	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER																												
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE	AMT																										
31BS02	E1		3500 N	04800 W	113	58	09	07	239	1968	E16	027		4297	03	21			3	X2	0	3		0027																									
<table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO- METER (mba)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIS. CODE</th><th rowspan="2">NO. OBS. DEPTHS</th><th rowspan="2">SPECIAL OBSERVATIONS</th></tr><tr><th>COLOR CODE</th><th>TRANS. (m)</th><th>DIR.</th><th>SPEED OR FORCE</th><th>DRY BULB</th><th>WET BULB</th></tr><tr><td>DT</td><td>SD</td><td>16</td><td>S04</td><td>149</td><td>211</td><td>206</td><td>7</td><td>13</td><td></td></tr></table>																								WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DT	SD	16	S04	149	211	206	7	13	
WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																																								
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																																											
DT	SD	16	S04	149	211	206	7	13																																									
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	Si O ₄ -Si μg - at/l	pH	Σ C																																
		STD	0000	2442	3633	2454	0034029	0000	15349																																								
	239	OBS	0000	2442	36330	2454			15349																																								
		STD	0010		3633																																												
		OBS	0010		36330																																												
		STD	0020		3629																																												
	001	OBS	0020		36293																																												
		STD	0030		3628																																												
		OBS	0030		36281																																												
		OBS	0044		36363																																												
		STD	0050		3633																																												
		OBS	0050		36328																																												
		STD	0075		3641																																												
		OBS	0075		36413																																												
		STD	0100		3635																																												
		OBS	0100		36345																																												
		STD	0125		3635																																												
		OBS	0125		36354																																												
		STD	0150		3633																																												
		OBS	0150		36331																																												
		STD	0200		3624																																												
		OBS	0200		36241																																												
		STD	0250	1600	3616	2666	0014741	0610	15160																																								
		OBS	0250	1600	36158	2666			15160																																								
		OBS	0268		36128																																												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPT INDEX	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	
31BS02	E1		3501 N	04803 W	113	58	09	08	058	1968	E16	028	4297	03	21			3	X2		0	3	0028
						WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
COLOR CODE		TRANS. (m)		DIR.	SPEED OR FORCE		DRY BULB	WET BULB															
DT		SD		14	S14		129	239	222	7	16												
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	Σ C				
		STD	0000	2434	3635	2458		0033670		0000	15348												
058		OBS	0000	2434	36348	2458					15348												
		STD	0010		3634																		
		OBS	0010		36338																		
001		OBS	0017		36126																		
		STD	0020		3613																		
		OBS	0020		36133																		
		OBS	0022		36218																		
		STD	0030		3630																		
		OBS	0030		36298																		
		OBS	0032		36357																		
		OBS	0036		36233																		
		STD	0050		3639																		
		OBS	0050		36387																		
		STD	0075		3633																		
		OBS	0075		36329																		
		STD	0100		3636																		
		OBS	0100		36359																		
		STD	0125		3632																		
		OBS	0125		36323																		
		STD	0150		3631																		
		OBS	0150		36308																		
		STD	0200		3622																		
		OBS	0200		36220																		
		STD	0250	1548	3613	2675		0013808		0593	15144												
		OBS	0250	1548	36129	2675					15144												
		OBS	0278		36087																		

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	WAVE INDEX	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS		WEA- THER CODE	CLOUD CODES		NGDC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR		NUMBER	SEA	
31BS02	E1		3503 N	04801 W		113	58	09	08	119	1968	E16 029	4206	03	18		3	X1	0 3	0029
						WATER		WIND		BARO- METER (mb)		AIR TEMP °C		VIS. CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS				
COLOR CODE		TRANS- M	DIR	SPEED OR FORCE		DRY BULB		WET BULB												
DT		SD		15	S18	108		239		222		7	12							
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ D DYN. M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg-at/l	TOTAL-P μg-at/l	NO ₃ -N μg-at/l	NO ₃ -N μg-at/l	SIO ₄ -Si μg-at/l	pH	CHLOROPHYLL
		STD	0000	2420	3632	2460		0033501		0000		15344								
	119	OBS	0000	2420	36316	2460						15344								
		STD	0010		3632															
		OBS	0010		36316															
		STD	0020		3630															
	001	OBS	0020		36300															
		STD	0030		3628															
		OBS	0030		36281															
		STD	0050		3637															
		OBS	0050		36370															
		STD	0075		3633															
		OBS	0075		36330															
		STD	0100		3633															
		OBS	0100		36333															
		STD	0125		3635															
		OBS	0125		36350															
		STD	0150		3633															
		OBS	0150		36330															
		STD	0200	1639	3627	2665		0014631		0481		15165								
		OBS	0200	1639	36271	2665						15165								
		STD	0250		3617															
		OBS	0250		36172															
		OBS	0271		36112															

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	WAVE INDEX	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NGDC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY		HR.1-10	CRUISE NO.			STATION NUMBER	DIR	HGT PER SEA		TYPE	AMT	
31BS02	E1		3501 N	04803 W		113	58	09	08	179	1968	E16 030	4297	03	19		3	X2	0 3		0030
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
COLOR CODE		TRANS. (m)	DIR	SPEED OR FORCE	DRY BULB		WET BULB														
DT	SD	17	S11	098	250	217	7	14													
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg-at/l	TOTAL-P μg-at/l	NO ₃ -N μg-at/l	NO ₃ -N μg-at/l	SiO ₄ -Si μg-at/l	pH	CHLOROPHYLL				
		STD	0000	2422	3630	2458	0033652	0000	15344												
	179	OBS	0000	2422	36303	2458			15344												
		STD	0010		3630																
		OBS	0010		36303																
		STD	0020		3632																
	001	OBS	0020		36322																
		STD	0030		3632																
		OBS	0030		36323																
		OBS	0041		36373																
		STD	0050		3631																
		OBS	0050		36314																
		STD	0075		3635																
		OBS	0075		36353																
		OBS	0083		36278																
		STD	0100		3634																
		OBS	0100		36343																
		STD	0125		3631																
		OBS	0125		36308																
		STD	0150		3633																
		OBS	0150		36332																
		STD	0200		3622																
		OBS	0200		36215																
		STD	0250		3612																
		OBS	0250		36118																
		OBS	0273		36093																

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT INDEX	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER		
CTRY CODE	ID. NO.						10"	1"	MO		DAY	HR.1/10			CRUISE NO.	STATION NUMBER	DIR	HGT				PER	SEA
318	502	E1	3500 N	04800 W	113	58	09	08	239	1968	E16	031	4389	03	18				3	X1	0	3	0031
						WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mbars)	DRY BULB	WET BULB	VIS. CODE										
						DT	SD	20	506	105	239	217	7	15									

MESSNGR TIME OF HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ ρ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SIO ₄ -Si μg - at/l	pH	SCC
		STD	0000	2414	3631	2461	0033345	0000	15343								
	239	OBS	0000	2414	36314	2461			15343								
		STD	0010		3632												
		OBS	0010		36315												
		STD	0020		3631												
	001	OBS	0020		36312												
		STD	0030		3624												
		OBS	0030		36237												
		OBS	0043		36351												
		STD	0050		3633												
		OBS	0050		36334												
		OBS	0054		36276												
		OBS	0066		36366												
		STD	0075		3636												
		OBS	0075		36356												
		STD	0100		3635												
		OBS	0100		36353												
		STD	0125		3636												
		OBS	0125		36356												
		STD	0150		3635												
		OBS	0150		36348												
		STD	0200		3627												
		OBS	0200		36265												
		STD	0250		3617												
		OBS	0250		36171												
		OBS	0269	1576	36136	2669			15156								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT INDEX	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.						10"	1"	MO		DAY	HR.1/10			CRUISE NO.	STATION NUMBER	DIR	HGT		PER	SEA		TYP
318	502	E1	3500 N	04800 W	113	58	09	09	059	1968	E16	032	4023	03	18			3	X1	0	3	0032	
						WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mbars)	DRY BULB	WET BULB	VIS. CODE										
						DT	SD	24	506	098	233	217	7	16									

MESSNGR TIME OF HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ ρ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SIO ₄ -Si μg - at/l	pH	SCC
		STD	0000	2408	3630	2462	0033246	0000	15341								
	059	OBS	0000	2408	36304	2462			15341								
		STD	0010		3630												
		OBS	0010		36299												
		STD	0020		3624												
	001	OBS	0020		36244												
		OBS	0026		36213												
		STD	0030		3622												
		OBS	0030		36224												
		OBS	0043		36343												
		STD	0050		3632												
		OBS	0050		36324												
		OBS	0054		36434												
		OBS	0057		36283												
		STD	0075		3631												
		OBS	0075		36314												
		STD	0100		3634												
		OBS	0100		36335												
		STD	0125		3632												
		OBS	0125		36317												
		STD	0150		3630												
		OBS	0150		36302												
		STD	0200		3623												
		OBS	0200		36233												
		STD	0250		3611												
		OBS	0250		36114												
		OBS	0272	1551	36092	2672			15148								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT
31BS02	E1		3501 N	04803 W		113	58	09	09	239	1968	E16	035	4389	03	21			3	X1	0	3	0035
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB		WET BULB														
		DT	SD	26	S16	125	239	228	7	14													
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME AND MALT-R102	Σ Δ ρ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	SCC						
		STD	0000	2416	3631	2460	0033459	0000	15343														
	239	OBS	0000	2416	36306	2460			15343														
		STD	0010		3631																		
		OBS	0010		36306																		
		STD	0020		3629																		
	001	OBS	0020		36293																		
		STD	0030		3624																		
		OBS	0030		36242																		
		OBS	0037		36171																		
		OBS	0045		36331																		
		STD	0050		3632																		
		OBS	0050		36321																		
		STD	0075		3627																		
		OBS	0075		36270																		
		STD	0100		3636																		
		OBS	0100		36362																		
		STD	0125		3633																		
		OBS	0125		36332																		
		STD	0150		3633																		
		OBS	0150		36328																		
		STD	0200		3628																		
		OBS	0200		36279																		
		STD	0250		3617																		
		OBS	0250		36169																		
		OBS	0271		36091																		

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NDDC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
31BS02	E1	3503 N	04803 W	113	58	09	10	059	1968	E16	036	4023	03	26				3	X1	0	3	0036
						WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB													
		DT	SD	27	S10			239	222	7	14											
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t ?		Σ Δ ρ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	SCC			
		STD	0000	2406	3627	2460		0033449		0000	15340											
	059	OBS	0000	2406	36268	2460					15340											
		STD	0010		3627																	
		OBS	0010		36268																	
		STD	0020		3627																	
	001	OBS	0020		36268																	
		STD	0030		3633																	
		OBS	0030		36325																	
		OBS	0048		36240																	
		STD	0050		3625																	
		OBS	0050		36251																	
		OBS	0060		36330																	
		STD	0075		3629																	
		OBS	0075		36288																	
		STD	0100		3634																	
		OBS	0100		36335																	
		STD	0125		3634																	
		OBS	0125		36335																	
		STD	0150		3632																	
		OBS	0150		36320																	
		STD	0200		3625																	
		OBS	0200		36249																	
		STD	0250		3614																	
		OBS	0250		36135																	
		OBS	0271	1559	36091	2670					15150											

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT			
31BS02	E1		3501 N	04803 W		113	58	09	10	117	1968	E16 037	4297	03	22		3	X1	0 3	0037
						WATER		WIND		BARO- METER		AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS				
COLOR CODE		TRANS. IN		DIR.		SPEED OF FORCE		(mb)		DRY BULB		WET BULB								
DT		SD		26		508		156		239		222								
MESSENGER TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-30°		Σ Δ D DYN. M x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 0.1	TOTAL-P μg - 0.1	NO ₂ -N μg - 0.1	NO ₃ -N μg - 0.1	SIO ₄ -Si μg - 0.1	pH	S °C
		STD	0000	2408	3626	2459		0033563		0000		15341								
117		OBS	0000	2408	36260	2459						15341								
		STD	0010		3626															
		OBS	0010		36261															
		STD	0020		3624															
001		OBS	0020		36237															
		STD	0030		3620															
		OBS	0030		36198															
		OBS	0040		36312															
		STD	0050		3629															
		OBS	0050		36287															
		OBS	0057		36201															
		STD	0075		3631															
		OBS	0075		36311															
		STD	0100		3634															
		OBS	0100		36343															
		STD	0125		3634															
		OBS	0125		36340															
		STD	0150		3631															
		OBS	0150		36312															
		STD	0200		3621															
		OBS	0200		36212															
		STD	0250		3613															
		OBS	0250		36133															
		OBS	0270		36122															

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER				SEA
31BS02	E1		3500 N	04800 W		113	58	09	10	179	1968	E16 038	4206	03	25			3	X1	0 3	0038	
		WATER		WIND		BARO- METER		AIR TEMP °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
		COLOR CODE	TRANL IN	DIR.	SPEED OF FORCE	(mb)		DRY BULB	WET BULB													
		DT	SD	31	S05	152	244	228	7					12								
MESSENGER TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-30°		Σ Δ D DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 0.1	TOTAL-P μg - 0.1	NO ₂ -N μg - 0.1	NO ₃ -N μg - 0.1	SIO ₄ -Si μg - 0.1	pH	S	TYPE			
		STD	0000	2447	3625	2446	0034770		0000	15350												
179		OBS	0000	2447	36247	2446				15350												
		STD	0010		3624																	
		OBS	0010		36239																	
		STD	0020		3618																	
001		OBS	0020		36184																	
		STD	0030		3627																	
		OBS	0030		36270																	
		STD	0050		3624																	
		OBS	0050		36239																	
		STD	0075		3631																	
		OBS	0075		36309																	
		STD	0100		3638																	
		OBS	0100		36379																	
		STD	0125		3637																	
		OBS	0125		36369																	
		STD	0150		3633																	
		OBS	0150		36326																	
		STD	0200		3625																	
		OBS	0200		36247																	
		STD	0250		3615																	
		OBS	0250		36148																	
		OBS	0270	1569	36144	2672				15154												

REFERENCE		SHIP	LATITUDE	LONGITUDE	DEPTH METER	MARDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER			
CRT CODE	IO. NO.	CODE	° 1/10	° 1/10		10"	1"	MO	DAY	HR.1/10	CRUISE NO.	STATION NUMBER		DIR.	HGT	PER	SEA	TYPE	AMT				
31BS02		E1	3501 N	04803 W		113	58	09	10	237	1968	E16	039	2743	03	29			3	X1	0 3		0039
						WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB				
						DT	SO	34	S06	166	239	228	7	12									
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Δ ρ DYN. M. x 10 ³		SOUND VELOCITY		O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	3 C C		
		STD	0000	2441	3626	2450		0034475		0000		15348											
237		OBS	0000	2441	36264	2450						15348											
		STD	0010		3627																		
		OBS	0010		36274																		
		STD	0020		3627																		
001		OBS	0020		36273																		
		STD	0030		3615																		
		OBS	0030		36154																		
		STD	0050		3631																		
		OBS	0050		36314																		
		STD	0075		3632																		
		OBS	0075		36324																		
		STD	0100		3633																		
		OBS	0100		36329																		
		STD	0125		3634																		
		OBS	0125		36343																		
		STD	0150		3634																		
		OBS	0150		36339																		
		STD	0200		3629																		
		OBS	0200		36285																		
		STD	0250		3618																		
		OBS	0250		36179																		
		OBS	0270	1585	36143	2668						15159											

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE CODE	IO. NO.					MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	
31BS02	E1	3500 N	04800 W	113	58	09 11 058	1968	E16	040	4206	03	28			3	X1	0 3	0040			
					WATER		WIND		AIR TEMP. °C		BARO- METER (mb)		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS				
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB			
					DT	SO	33	S10	166	233	206	7	16								
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Δ ρ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C				
		STD	0000	2403	3614	2452	0034264	0000	15338												
058		OBS	0000	2403	36143	2452			15338												
		STD	0010		3618																
		OBS	0010		36183																
		STD	0020		3630																
001		OBS	0020		36303																
		STD	0030		3632																
		OBS	0030		36323																
		OBS	0032		36263																
		OBS	0036		36323																
		OBS	0038		36303																
		OBS	0041		36353																
		STD	0050		3634																
		OBS	0050		36336																
		STD	0075		3635																
		OBS	0075		36352																
		STD	0100		3634																
		OBS	0100		36343																
		STD	0125		3636																
		OBS	0125		36363																
		STD	0150		3635																
		OBS	0150		36353																
		STD	0200		3628																
		OBS	0200		36283																
		STD	0250		3620																
		OBS	0250		36202																
		OBS	0270	1602	36180	2667			15164												

REFERENCE		SHIP	LATITUDE	LONGITUDE	MARDEN	STATION TIME			ORIGINATOR'S		DEPTH	MAX.	WAVE				WEA-	CLOUD	NODC																																																		
CTRY	ID.	CODE	"	"	SQ	10"	1"	MO	DAY	HR, 1/10	YEAR	CRUISE	STATION	TO	DEPTH	DIR	HGT	PER	SEA	THER	CODES	TYPE	AMT	STATION																																													
CODE	NO.											NO.	NUMBER	BOTTOM	OF					CODE				NUMBER																																													
31BS02	E1		3501 N	04803 W		113	58	09	11	117	1968	E16	041		4316	03	01			3	X1	0	3	0041																																													
<table><tr><th colspan="4">WATER</th><th colspan="4">WIND</th><th colspan="4">AIR TEMP. °C</th><th rowspan="2">VIS</th><th rowspan="2">NO.</th><th rowspan="2">SPECIAL</th></tr><tr><th>COLOR</th><th>TRANS.</th><th>DIR.</th><th>SPEED</th><th>BARO-</th><th>DRY</th><th>WET</th><th>CODE</th><th>OBS.</th><th>OBSERVATIONS</th></tr><tr><th>CODE</th><th>(m)</th><th></th><th>OR</th><th>METER</th><th>BULB</th><th>BULB</th><th></th><th>DEPTHS</th><th></th></tr><tr><td>0T</td><td>50</td><td>36</td><td>S08</td><td>179</td><td>233</td><td>211</td><td>7</td><td>18</td><td></td></tr></table>																									WATER				WIND				AIR TEMP. °C				VIS	NO.	SPECIAL	COLOR	TRANS.	DIR.	SPEED	BARO-	DRY	WET	CODE	OBS.	OBSERVATIONS	CODE	(m)		OR	METER	BULB	BULB		DEPTHS		0T	50	36	S08	179	233	211	7	18	
WATER				WIND				AIR TEMP. °C				VIS	NO.	SPECIAL																																																							
COLOR	TRANS.	DIR.	SPEED	BARO-	DRY	WET	CODE	OBS.	OBSERVATIONS																																																												
CODE	(m)		OR	METER	BULB	BULB		DEPTHS																																																													
0T	50	36	S08	179	233	211	7	18																																																													
MESSNGR	CST	CARD	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME	$\Sigma \Delta$ D	SOUND	O ₂ ml/l	PO ₄ -P	TOTAL-P	NO ₂ -N	NO ₃ -N	Si O ₄ -Si	pH	S																																																				
TIME	NO.	TYPE					ANOMALY- σ_{θ}	DYN. M	VELOCITY		$\mu\text{g} \cdot \text{dl/l}$	$\mu\text{g} \cdot \text{dl/l}$	$\mu\text{g} \cdot \text{dl/l}$	$\mu\text{g} \cdot \text{dl/l}$	$\mu\text{g} \cdot \text{dl/l}$		C																																																				
HR 1/10								$\times 10^3$																																																													
		STD	0000	2411	3615	2450	0034427	0000	15340																																																												
117		OBS	0000	2411	36152	2450			15340																																																												
		OBS	0007		36161																																																																
		STD	0010		3624																																																																
001		OBS	0010		36241																																																																
		OBS	0011		36298																																																																
		STD	0020		3630																																																																
		OBS	0020		36301																																																																
		OBS	0026		36330																																																																
		STD	0030		3607																																																																
		OBS	0030		36066																																																																
		OBS	0032		36201																																																																
		STD	0050		3632																																																																
		OBS	0050		36323																																																																
		OBS	0066		36344																																																																
		OBS	0070		36281																																																																
		STD	0075		3631																																																																
		OBS	0075		36311																																																																
		STD	0100		3633																																																																
		OBS	0100		36334																																																																
		STD	0125		3635																																																																
		OBS	0125		36351																																																																
		STD	0150		3635																																																																
		OBS	0150		36351																																																																
		STD	0200		3630																																																																
		OBS	0200		36296																																																																
		STD	0250		3623																																																																
		OBS	0250		36229																																																																
		OBS	0270		36200																																																																

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT DIRECTION	MARDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER																																						
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR, 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT																																							
31BS02	E1		3503 N	04800 W		113	58	09	11	178	1968	E16	042	4206	03	36			3	X1	0	3	0042																																						
<table><tr><th colspan="4">WATER</th><th colspan="4">WIND</th><th colspan="4">AIR TEMP. °C</th><th rowspan="2">VIS. CODE</th><th rowspan="2">NO. OBS. DEPTHS</th><th rowspan="2">SPECIAL OBSERVATIONS</th></tr><tr><th>COLOR CODE</th><th>TRANS. (m)</th><th>DIR.</th><th>SPEED OR FORCE</th><th>BARO- METER (mba)</th><th>DRY BULB</th><th>WET BULB</th><th></th></tr><tr><td>DT</td><td>50</td><td>35</td><td>S22</td><td>173</td><td>233</td><td>217</td><td>7</td><td>18</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>																								WATER				WIND				AIR TEMP. °C				VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mba)	DRY BULB	WET BULB		DT	50	35	S22	173	233	217	7	18						
WATER				WIND				AIR TEMP. °C				VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																																															
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mba)	DRY BULB	WET BULB																																																							
DT	50	35	S22	173	233	217	7	18																																																					
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl/l}$	TOTAL-P $\mu\text{g} \cdot \text{dl/l}$	NO ₂ -N $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	Si O ₄ -Si $\mu\text{g} \cdot \text{dl/l}$	pH	S C																																												
		STD	0000	2422	3612	2444	0034999	0000	15342																																																				
178		OBS	0000	2422	36116	2444			15342																																																				
		STD	0010		3612																																																								
		OBS	0010		36116																																																								
		STD	0020		3614																																																								
002		OBS	0020		36141																																																								
		STD	0030		3632																																																								
		OBS	0030		36321																																																								
		OBS	0042		36641																																																								
		STD	0050		3660																																																								
		OBS	0050		36602																																																								
		OBS	0062		36371																																																								
		STD	0075		3645																																																								
		OBS	0075		36451																																																								
		OBS	0085		36360																																																								
		OBS	0090		36487																																																								
		OBS	0094		36391																																																								
		OBS	0096		36503																																																								
		STD	0100		3647																																																								
		OBS	0100		36470																																																								
		STD	0125		3647																																																								
		OBS	0125		36471																																																								
		STD	0150		3647																																																								
		OBS	0150		36471																																																								
		STD	0200		3636																																																								
		OBS	0200		36356																																																								
		STD	0250	1652	3626	2661	0015175	0627	15177																																																				
		OBS	0250	1652	36259	2661			15177																																																				
		OBS	0264		36221																																																								

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DEPT INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CRUISE CODE	IO. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
318502	E1		3500 N	04801 W		113	58	09	11	238	1968	E16 043	4023	03	36			3	X1	0 3		0043	
						WATER		WIND		BARO- METER (mba)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
COLOR CODE		TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB		WET BULB															
DT	SD	35	S15	183	233	222	7	12															
MESSENGER TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ D DYN. M. X 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ol/l	TOTAL-P μg - ol/l	NO ₂ -N μg - ol/l	NO ₃ -N μg - ol/l	SiO ₄ -Si μg - ol/l	pH	3 C C			
	238	STD	0000	2412	3615	2450		0034448		0000		15340											
		OBS	0000	2412	36153	2450						15340											
		STD	0010		3616																		
		OBS	0010		36158																		
	001	STD	0020		3616																		
		OBS	0020		36163																		
		STD	0030		3625																		
		OBS	0030		36253																		
		STD	0050		3623																		
		OBS	0050		36233																		
		STD	0075		3633																		
		OBS	0075		36328																		
		STD	0100		3638																		
		OBS	0100		36378																		
		STD	0125		3638																		
		OBS	0125		36378																		
		STD	0150		3639																		
		OBS	0150		36393																		
		STD	0200		3632																		
		OBS	0200		36318																		
		STD	0250		3622																		
		OBS	0250		36223																		
		OBS	0270		36193																		

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DEPT INCHES	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CRUISE CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE
318502	E1		3500 N	04800 W		113	58	09	12	058	1968	E16 044	4206	03	36			4	X1	0 3	0044	
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
		COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	BARO- METER (mba)		DRY BULB	WET BULB													
		DT	SD	02	S21	166		228	211	7	16											
MESSENGER TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY		O ₂ ml/l	PO ₄ -P μg - ol/l	TOTAL-P μg - ol/l	NO ₂ -N μg - ol/l	NO ₃ -N μg - ol/l	SiO ₄ -Si μg - ol/l	pH	S C C		
		STD	0000	2398	3608	2449		0034548		0000	15336											
058		OBS	0000	2398	36084	2449					15336											
		STD	0010		3609																	
		OBS	0010		36088																	
001		OBS	0016		36086																	
		STD	0020		3621																	
		OBS	0020		36206																	
		OBS	0025		36184																	
		STD	0030		3629																	
		OBS	0030		36286																	
		OBS	0032		36166																	
		OBS	0040		36481																	
		STD	0050		3649																	
		OBS	0050		36488																	
		STD	0075		3649																	
		OBS	0075		36486																	
		STD	0100		3650																	
		OBS	0100		36501																	
		STD	0125		3650																	
		OBS	0125		36504																	
		STD	0150		3648																	
		OBS	0150		36483																	
		STD	0200		3641																	
		OBS	0200		36414																	
		STD	0250		3631																	
		OBS	0250		36306																	
		OBS	0270		36245																	

REFERENCE		SHIP CODE	LATITUDE ° 1' 10"	LONGITUDE ° 1' 10"	MARS SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
31BS02	E1		3502 N	04801 W	113	58	09 13 057	1968	E16	047	4526	03	05			3	X6	03		0047
						WATER		WIND	BARO- METER		AIR TEMP °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS. UNIT	DIR.	SPEED OR FORCE	DRY BULB	WET BULB									
						DT	SD	05	516	193	217	206	7	12						
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S	C	
		STD	0000	2399	3615	2454	0034093		0000	15337										
	057	OBS	0000	2399	36151	2454				15337										
		STD	0010		3615															
		OBS	0010		36151															
		STD	0020		3627															
	001	OBS	0020		36271															
		STD	0030		3625															
		OBS	0030		36251															
		STD	0050		3632															
		OBS	0050		36320															
		STD	0075		3634															
		OBS	0075		36338															
		STD	0100		3637															
		OBS	0100		36366															
		STD	0125		3637															
		OBS	0125		36371															
		STD	0150		3637															
		OBS	0150		36366															
		STD	0200		3632															
		OBS	0200		36321															
		STD	0250		3618															
		OBS	0250		36178															
		OBS	0270		36161															

REFERENCE		SHIP CODE	LATITUDE ° 1' 10"	LONGITUDE ° 1' 10"	MARS SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					CRUISE NO.	STATION NUMBER		DIR	HGT			PER	SEA	TYPE	AMT				
31BS02	E1		3500 N	04802 W	113	58	09 13 118	1968	E16	048	4478	03	05			3	X1	03		0048
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS				
						COLOR CODE	TRANS. UNIT	DIR.	SPEED OF FORCE	DRY BULB	WET BULB									
						DT	SD	02	512	193	244	217	7	13						
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ C DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C		
		STD	0000	2392	3611	2452	0034220		0000	15335										
	118	OBS	0000	2392	36106	2452				15335										
		STD	0010		3611															
		OBS	0010		36106															
		STD	0020		3612															
	001	OBS	0020		36121															
		OBS	0026		36388															
		STD	0030		3629															
		OBS	0030		36286															
		STD	0050		3622															
		OBS	0050		36216															
		STD	0075		3639															
		OBS	0075		36387															
		STD	0100		3647															
		OBS	0100		36471															
		STD	0125		3648															
		OBS	0125		36484															
		STD	0150		3647															
		OBS	0150		36466															
		STD	0200		3631															
		OBS	0200		36309															
		STD	0250		3615															
		OBS	0250		36145															
		OBS	0270		36153															

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10			DIR.	HGT	PER	SEA		TYPE	AMT	

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C
		STD	0000	2410	3614	2449	0034513	0000	15340								
	058	OBS	0000	2410	36136	2449			15340								
		STD	0010		3629												
		OBS	0010		36286												
		STD	0020		3628												
	001	OBS	0020		36276												
		STD	0030		3630												
		OBS	0030		36301												
		STD	0050		3630												
		OBS	0050		36296												
		STD	0075		3633												
		OBS	0075		36331												
		STD	0100		3648												
		OBS	0100		36475												
		STD	0125		3647												
		OBS	0125		36466												
		STD	0150		3643												
		OBS	0150		36426												
		STD	0200		3630												
		OBS	0200		36301												
		STD	0250		3615												
		OBS	0250		36146												
		OBS	0272		36068												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10			DIR.	HGT	PER	SEA		TYPE	AMT	

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C
		STD	0000	2412	3618	2452	0034253	0000	15341								
118		OBS	0000	2412	36180	2452			15341								
		STD	0010		3618												
		OBS	0010		36180												
		STD	0020		3618												
001		OBS	0020		36182												
		OBS	0025		36370												
		STD	0030		3630												
		OBS	0030		36302												
		STD	0050		3632												
		OBS	0050		36322												
		STD	0075		3634												
		OBS	0075		36340												
		STD	0100		3637												
		OBS	0100		36373												
		STD	0125		3636												
		OBS	0125		36364												
		STD	0150		3634												
		OBS	0150		36339												
		STD	0200		3628												
		OBS	0200		36277												
		STD	0250		3613												
		OBS	0250		36132												
		OBS	0269		36081												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER		
CTRY CODE	ID. NO.								CRUISE NO.	STATION NUMBER		DIR.	HGT	PER				SEA	TYPE
31BS02	E1		3500 N	04800 W	113	58	09 14 177	1968	E16	053	4334	03	23			2	X1	0 3	0053
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS			
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mba)	DRY BULB	WET BULB							
						DT	SD	22	S10	193	261	217	7	12					
MISSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 01/l	TOTAL-P μg - 01/l	NO ₂ -N μg - 01/l	NO ₃ -N μg - 01/l	SIO ₄ -Si μg - 01/l	pH	S C		
		STD	0000	2432	3622	2449	0034535	0000	15346										
177		OBS	0000	2432	36220	2449			15346										
		STD	0010		3622														
		OBS	0010		36220														
		STD	0020		3638														
001		OBS	0020		36384														
		STD	0030		3633														
		OBS	0030		36327														
		STD	0050		3632														
		OBS	0050		36324														
		STD	0075		3632														
		OBS	0075		36319														
		STD	0100		3633														
		OBS	0100		36329														
		STD	0125		3634														
		OBS	0125		36338														
		STD	0150		3632														
		OBS	0150		36319														
		STD	0200		3624														
		OBS	0200		36240														
		STD	0250		3604														
		OBS	0250		36037														
		OBS	0270		36099														

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DEPTH METER	MARSDEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.						CRUISE NO.	STATION NUMBER		NO.	DAY			HR.1/10	DIR.	HGT		PER	SEA	
31BS02	E1		3501 N	04802 W	113	58	09 14 238	1968	E16	054		4297	03	24			2	X1	0 3	0054
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS		
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mba)	DRY BULB	WET BULB	°C	°C	NO.	DEPTHS				
						DT	SD	22	S10	200	244	222	7	13						
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³		Σ Δ D DYN. M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 01/l	TOTAL-P μg - 01/l	NO ₂ -N μg - 01/l	NO ₃ -N μg - 01/l	SiO ₄ -Si μg - 01/l	pH	S C	
		STD	0000	2419	3623	2453	0034114		0000		15343									
238		OBS	0000	2419	36227	2453					15343									
		STD	0010		3623															
		OBS	0010		36227															
		STD	0020		3623															
001		OBS	0020		36228															
		STD	0030		3638															
		OBS	0030		36381															
		OBS	0039		36291															
		STD	0050		3629															
		OBS	0050		36287															
		STD	0075		3628															
		OBS	0075		36282															
		STD	0100		3630															
		OBS	0100		36302															
		STD	0125		3634															
		OBS	0125		36338															
		STD	0150		3634															
		OBS	0150		36342															
		STD	0200		3624															
		OBS	0200		36240															
		STD	0250		3613															
		OBS	0250		36127															
		OBS	0270		36067															

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10'	1'	MO		DAY	HR.1/10			CRUISE NO.	STATION NUMBER	DIR	HGT		PER	SEA		TPP
31	BS02	E1	3502 N	04801 W	113 58	09	15	059	1968	E16	055	4389	03	24			2	X1	0	3		0055

318S02	E1	3502 N	04801 W	113	58	09	15	059	1968	E16	055	4389	03	24				2	X1	0	3			0055
					WATER		WIND			BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB												
					DT	SD	20	515	193	244	228	7	14											

MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SiO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S C
		STD	0000	2411	3618	2452	0034218	0000	15340								
059		OBS	0000	2411	36181	2452			15340								
		STD	0010		3619												
		OBS	0010		36185												
		STD	0020		3619												
001		OBS	0020		36185												
		OBS	0022		36185												
		OBS	0029		36389												
		STD	0030		3630												
		OBS	0030		36304												
		STD	0050		3629												
		OBS	0050		36294												
		STD	0075		3648												
		OBS	0075		36483												
		STD	0100		3649												
		OBS	0100		36489												
		STD	0125		3647												
		OBS	0125		36472												
		STD	0150		3644												
		OBS	0150		36443												
		STD	0200		3633												
		OBS	0200		36329												
		STD	0250		3618												
		OBS	0250		36181												
		OBS	0270		36154												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10'	1'	MO		DAY	HR.1/10			CRUISE NO.	STATION NUMBER	DIR	HGT		PER	SEA	
31	BS02	E1	3500 N	04800 W	113 58	09	15	118	1968	E16	056	4389	03	20		3	X1	0	3		0056

318S02	E1	3500 N	04800 W	113	58	09	15	118	1968	E16	056	4389	03	20				3	X1	0	3			0056
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE												
						DT	SD	21	507	207	250	239	7	12										

MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SiO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S C
		STD	0000	2416	3626	2457	0033769	0000	15342								
118		OBS	0000	2416	36263	2457			15342								
		STD	0010		3626												
		OBS	0010		36263												
		STD	0020		3636												
001		OBS	0020		36363												
		STD	0030		3632												
		OBS	0030		36323												
		STD	0050		3630												
		OBS	0050		36298												
		STD	0075		3629												
		OBS	0075		36285												
		STD	0100		3631												
		OBS	0100		36308												
		STD	0125		3635												
		OBS	0125		36353												
		STD	0150		3633												
		OBS	0150		36325												
		STD	0200		3624												
		OBS	0200		36241												
		STD	0250		3608												
		OBS	0250		36078												
		OBS	0270		36063												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE	AMT
31BS02	E1		3500 N	04800 W		113	58	09	18	116	1968	E16 063	4297	03	23			2	X1	0 3		0063	
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
COLOR CODE		TRANS. (m)		DIR.		SPEED OF FORCE		DRY BULB		WET BULB													
0T		SD		23		S11		146		244		228		7	12								
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ DYN. M. $\times 10^3$		SOUND VELOCITY		O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C		
		STD	0000	2454	3640	2456		0033890		0000		15353											
116		OBS	0000	2454	36397	2456						15353											
		STD	0010		3636																		
		OBS	0010		36358																		
		STD	0020		3640																		
001		OBS	0020		36397																		
		STD	0030		3636																		
		OBS	0030		36360																		
		STD	0050		3628																		
		OBS	0050		36278																		
		STD	0075		3635																		
		OBS	0075		36348																		
		STD	0100		3642																		
		OBS	0100		36419																		
		STD	0125		3646																		
		OBS	0125		36458																		
		STD	0150		3640																		
		OBS	0150		36399																		
		STD	0200		3626																		
		OBS	0200		36258																		
		STD	0250		3619																		
		OBS	0250		36188																		
		OBS	0270	1568	36138	2671						15153											

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DEPTH METER	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE	AMT
31BS02	E1		3500 N	04800 W		113	58	09	18	177	1968	E16	064	4389	03	25			3	X2	0 3		0064
						WATER		WIND		BARO- METER (mbk)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
		COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB		WET BULB															
		DT	SD	22	S12	122	250	233	7	12													
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C						
		STD	0000	2460	3641	2455	0033962	0000	15355														
177		OBS	0000	2460	36411	2455			15355														
		STD	0010		3640																		
		OBS	0010		36396																		
		STD	0020		3641																		
001		OBS	0020		36411																		
		STD	0030		3628																		
		OBS	0030		36282																		
		STD	0050		3636																		
		OBS	0050		36361																		
		STD	0075		3636																		
		OBS	0075		36362																		
		STD	0100		3639																		
		OBS	0100		36390																		
		STD	0125		3638																		
		OBS	0125		36382																		
		STD	0150		3641																		
		OBS	0150		36411																		
		STD	0200		3628																		
		OBS	0200		36280																		
		STD	0250		3617																		
		OBS	0250		36173																		
		OBS	0270		36139																		

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE INDEX	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS	WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER																																											
CTRY CODE	ID. NO.						MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER				DIR.	HGT		PER	SEA	TYPE	AMT																																							
31BS02	E1		3500 N	04800 W	113	58	09	18	236	1968	E16	065	4297	03	24		3	X1	0 3	0065																																									
<table><tr><td colspan="2">WATER</td><td colspan="2">WIND</td><td colspan="2">BARO- METER</td><td colspan="2">AIR TEMP. °C</td><td colspan="2">VIS. CODE</td><td colspan="2">NO. OBS. DEPTHS</td><td colspan="2">SPECIAL OBSERVATIONS</td></tr><tr><td>COLOR CODE</td><td>TRANS. (m)</td><td>DIR.</td><td>SPEED OR FORCE</td><td>DRY BULB</td><td>WET BULB</td><td>DRY BULB</td><td>WET BULB</td><td>DRY BULB</td><td>WET BULB</td><td>DRY BULB</td><td>WET BULB</td><td>DRY BULB</td><td>WET BULB</td></tr><tr><td>DT</td><td>SD</td><td>25</td><td>515</td><td>105</td><td>233</td><td>222</td><td>7</td><td>12</td><td></td><td></td><td></td><td></td><td></td></tr></table>																				WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DT	SD	25	515	105	233	222	7	12					
WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS																																																	
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB																																																
DT	SD	25	515	105	233	222	7	12																																																					
MESSAGE TIME OF HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C C																																												
	236	STD	0000	2450	3639	2456	0033862	0000	15352																																																				
		OBS	0000	2450	36385	2456			15352																																																				
		STD	0010		3639																																																								
		OBS	0010		36385																																																								
	001	STD	0020		3638																																																								
		OBS	0020		36375																																																								
		STD	0030		3639																																																								
		OBS	0030		36385																																																								
		STD	0050		3628																																																								
		OBS	0050		36275																																																								
		STD	0075		3632																																																								
		OBS	0075		36324																																																								
		STD	0100		3648																																																								
		OBS	0100		36476																																																								
		STD	0125		3650																																																								
		OBS	0125		36495																																																								
		STD	0150		3636																																																								
		OBS	0150		36356																																																								
		STD	0200		3628																																																								
		OBS	0200		36280																																																								
		STD	0250		3618																																																								
		OBS	0250		36175																																																								
		OBS	0270		36136																																																								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE INDEX	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS	WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER																																											
CTRY CODE	ID. NO.						MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER				TYPE	AMT																																												
31BS02	E1		3500 N	04800 W	113	58	09	19	057	1968	E16	066	4389	03	25		3	X1	0 3	0066																																									
<table><tr><td colspan="2">WATER</td><td colspan="2">WIND</td><td colspan="2">BARO- METER</td><td colspan="2">AIR TEMP. °C</td><td colspan="2">VIS. CODE</td><td colspan="2">NO. OBS. DEPTHS</td><td colspan="2">SPECIAL OBSERVATIONS</td></tr><tr><td>COLOR CODE</td><td>TRANS. (m)</td><td>DIR.</td><td>SPEED OR FORCE</td><td>DRY BULB</td><td>WET BULB</td><td>DRY BULB</td><td>WET BULB</td><td>DRY BULB</td><td>WET BULB</td><td>DRY BULB</td><td>WET BULB</td><td>DRY BULB</td><td>WET BULB</td></tr><tr><td>DT</td><td>SD</td><td>24</td><td>517</td><td>078</td><td>239</td><td>233</td><td>7</td><td>13</td><td></td><td></td><td></td><td></td><td></td></tr></table>																				WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DT	SD	24	517	078	239	233	7	13					
WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS																																																	
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB																																																
DT	SD	24	517	078	239	233	7	13																																																					
MESSAGE TIME OF HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C C																																												
		STD	0000	2441	3640	2460	0033474	0000	15350																																																				
	057	OBS	0000	2441	36403	2460			15350																																																				
		STD	0010		3641																																																								
		OBS	0010		36413																																																								
		STD	0020		3641																																																								
	001	OBS	0020		36413																																																								
		STD	0030		3638																																																								
		OBS	0030		36376																																																								
		OBS	0038		36278																																																								
		STD	0050		3631																																																								
		OBS	0050		36308																																																								
		STD	0075		3633																																																								
		OBS	0075		36329																																																								
		STD	0100		3638																																																								
		OBS	0100		36378																																																								
		STD	0125		3639																																																								
		OBS	0125		36393																																																								
		STD	0150		3637																																																								
		OBS	0150		36372																																																								
		STD	0200		3627																																																								
		OBS	0200		36273																																																								
		STD	0250		3615																																																								
		OBS	0250		36153																																																								
		OBS	0270		36142																																																								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DMT INCH	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER					
CRUISE CODE	IO. NO.						10"	1"	MO		DAY	HR.1/10			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA	TYPE	AMT		
318502	E1		3500 N	04800 W		113	58	09	19	237	1968	E16	069		4297	03	24		3	X1	0	3		0069		
							WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
							COLOR CODE	TRANS. WAT	DIR.	SPEED OR FORCE		DRY BULB	WET BULB													
							DT	SD	23	512		030	233				228	7	12							
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME AND MALT-10 ³		Σ Δ D DTN. M. X 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₃ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C C						
		STD	0000	2452	3633	2451		0034308		0000		15352														
237		OBS	0000	2452	36331	2451						15352														
		STD	0010		3636																					
		OBS	0010		36361																					
		STD	0020		3636																					
	001	OBS	0020		36361																					
		STD	0030		3629																					
		OBS	0030		36291																					
		STD	0050		3625																					
		OBS	0050		36249																					
		STD	0075		3630																					
		OBS	0075		36297																					
		STD	0100		3630																					
		OBS	0100		36296																					
		STD	0125		3634																					
		OBS	0125		36336																					
		STD	0150		3631																					
		OBS	0150		36311																					
		STD	0200		3623																					
		OBS	0200		36230																					
		STD	0250		3623																					
		OBS	0250		36226																					
		OBS	0272		36109																					

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DMT INCH	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER			
CRUISE CODE	ID. NO.						MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			OBSERVATIONS				TYPE	AMT				
							10"	1"							DIR.	HGT	PER					SEA		
318502	E1		3500 N	04800 W		113	58	09	20	058	1968	E16	070		4297	03	19		4	X1	0	3		0070
WATER		WIND		BARO- METER		AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS												
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mba)	DRY BULB	WET BULB	VIS. CODE																	
DT	SD	19	518	976	244	233	7	12																
MESSNGR TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME AND MALT-10 ³	Σ Δ D DTN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₃ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C C							
		STD	0000	2457	3637	2453	0034186	0000	15353															
	058	OBS	0000	2457	36368	2453			15353															
		STD	0010		3637																			
		OBS	0010		36369																			
		STD	0020		3637																			
	001	OBS	0020		36369																			
		STD	0030		3635																			
		OBS	0030		36350																			
		STD	0050		3633																			
		OBS	0050		36334																			
		STD	0075		3634																			
		OBS	0075		36339																			
		STD	0100		3634																			
		OBS	0100		36339																			
		STD	0125		3640																			
		OBS	0125		36395																			
		STD	0150		3637																			
		OBS	0150		36369																			
		STD	0200		3628																			
		OBS	0200		36279																			
		STD	0250		3619																			
		OBS	0250		36188																			
		OBS	0270		36160																			

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	TIME 1000	MARSOEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	

31BS02	E1	3500 N	04800 W	113	58	09	22	119	1968	E16	071	3200	03	34				4	X2	0	3		0071
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MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SIO ₄ -Si $\mu g - dl/l$	pH
		STD	0000	2295	3629	2495	0030159	0000	15313							
119		OBS	0000	2295	36294	2495			15313							
		STD	0010		3629											
		OBS	0010		36294											
		STD	0020		3629											
001		OBS	0020		36294											
		STD	0030		3629											
		OBS	0030		36292											
		STD	0050		3627											
		OBS	0050		36273											
		STD	0075		3625											
		OBS	0075		36253											
		STD	0100		3634											
		OBS	0100		36338											
		STD	0125		3636											
		OBS	0125		36361											
		STD	0150		3635											
		OBS	0150		36352											
		STD	0200		3631											
		OBS	0200		36308											
		STD	0250	1628	3621	2663	0014967	0564	15169							
		OBS	0250	1628	36213	2663			15169							
		OBS	0270		36158											

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	TIME 1000	MARSOEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. IM	DIR.	SPEED OR FORCE	DRY BULB	WET BULB				

MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SIO ₄ -Si $\mu g - dl/l$	pH	S CC
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TABLE XI.—Observed and interpolated oceanographic data for stations taken by USCGC DALLAS at Ocean Station ECHO, 23 September–11 October 1968, prepared from NODC listing No. 31-1381

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CITY CODE	IO. NO.					10°	1°	MO	DAY		HR.	1/10			CRUISE NO.	STATION NUMBER	DIR.	HGT		PER	SEA		TYPE
311381		DG	3457 N	04809 W	113	48	09	23	133	1968	E17	001	5000	13	04	3	3		X4	8	5		0001
						WATER		WIND		BARO- METER (mba)	AIR TEMP °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
									33	510	173	211	167	7	14								
MESSING TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Sigma \Delta \sigma$ DYN. AL. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{ml}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{ml}^{-1}$	SiO ₄ -Si $\mu\text{g} \cdot \text{ml}^{-1}$	pH	DOC						
		STD	0000	2254	3632	2509	0028828	0000	15303														
133		OBS	0000	2254	36323	2509			15303														
		STD	0010	2255	3633	2509	0028844	0029	15305														
		STD	0020	2255	3633	2509	0028851	0058	15307														
133		OBS	0022	2255	36335	2509			15307														
		STD	0030	2254	3632	2509	0028972	0087	15308														
133		OBS	0043	2253	36307	2508			15310														
		STD	0050	2109	3631	2548	0025248	0141	15274														
133		OBS	0065	1889	36327	2608			15217														
		STD	0075	1834	3634	2623	0018236	0195	15203														
133		OBS	0086	1787	36351	2636			15191														
		STD	0100	1770	3636	2641	0016639	0239	15189														
		STD	0125	1737	3638	2650	0015802	0279	15184														
133		OBS	0130	1730	36388	2652			15182														
		STD	0150	1700	3636	2657	0015206	0318	15176														
133		OBS	0173	1668	36323	2662			15170														
		STD	0200	1636	3626	2665	0014644	0393	15164														
		STD	0250	1583	3616	2670	0014350	0465	15155														
133		OBS	0261	1572	36135	2670			15153														
		STD	0300	1551	3607	2670	0014458	0537	15152														
133		OBS	0350	1495	35967	2675			15142														
		STD	0400	1389	3580	2685	0013280	0676	15114														
133		OBS	T0442	1306	35685	2693			15092														
		STD	0500	1226	3555	2698	0012123	0803	15073														
133		OBS	0527		35504																		
		STD	0600	1083	3544	2717	0010494	0916	15038														
		STD	0700	0934	3535	2736	0008757	1012	14999														
133		OBS	T0710	0919	35339	2737			14995														
		STD	0800	0763	3522	2752	0007127	1092	14950														
133		OBS	0886	0640	35134	2763			14915														
		STD	0900	0633	3513	2764	0005976	1157	14914														
		STD	1000	0583	3513	2770	0005412	1214	14911														
		STD	1100	0533	3513	2776	0004847	1265	14907														
		STD	1200	0483	3513	2782	0004291	1311	14904														
		STD	1300	0434	3513	2788	0003739	1351	14900														
133		OBS	T1327	0420	35131	2789			14899														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDEX	MARS DEN SQUARE		STATION TIME IGMT			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE NO.	IO. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
311381		DG	3502 N	04804 W		113	58	09	24	128	1968	E17	002	3600	15	05	6	5		X1	6	4	0002

311381	DG	3502 N	04804 W	113	58	09	24	128	1968	E17	002	3600	15	05	6	5		X1	6	4		0002
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

		27	S05	200	211	161	7	14	
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MESSINGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t °	Δ ρ DYN. AK. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	Si O ₄ -Si μg - at/l	pH	S C
		STD	0000	2301	3635	2497	0029935	0000	15315								
128		OBS	0000	2301	36348	2497			15315								
		STD	0010	2300	3635	2497	0029952	0030	15317								
		STD	0020	2299	3635	2498	0029962	0060	15318								
128		OBS	0025	2299	36349	2498			15319								
		STD	0030	2281	3636	2504	0029416	0090	15315								
		STD	0050	2146	3639	2544	0025649	0145	15285								
128		OBS	0050	2146	36389	2544			15285								
128		OBS	0074	1848	36394	2624			15207								
		STD	0075	1844	3639	2624	0018114	0199	15206								
128		OBS	0099	1778	36386	2640			15191								
		STD	0100	1777	3639	2641	0016607	0243	15191								
		STD	0125	1761	3642	2647	0016100	0284	15191								
128		OBS	0147	1746	36426	2651			15190								
		STD	0150	1744	3642	2651	0015788	0324	15190								
128		OBS	T0195	1708	36363	2656			15186								
		STD	0200	1704	3636	2657	0015465	0402	15186								
		STD	0250	1652	3627	2662	0015095	0478	15177								
128		OBS	0293	1598	36186	2668			15167								
		STD	0300	1585	3616	2669	0014552	0552	15164								
128		OBS	0389	1444	35933	2683			15131								
		STD	0400	1438	3592	2683	0013426	0692	15131								
128		OBS	0487	1351	35795	2692			15115								
		STD	0500	1328	3576	2694	0012606	0822	15109								
128		OBS	0584	1177	35533	2707			15069								
		STD	0600	1140	3549	2710	0011178	0941	15058								
		STD	0700	0932	3526	2729	0009382	1044	14997								
128		OBS	0779	0795	35132	2741			14957								
		STD	0800	0765	3512	2744	0007891	1130	14949								
		STD	0900	0639	3508	2759	0006459	1202	14916								
128		OBS	0972	0565	35053	2766			14898								
		STD	1000	0556	3505	2767	0005641	1263	14899								
		STD	1100	0525	3505	2770	0005381	1318	14903								
		STD	1200	0494	3504	2773	0005125	1370	14907								
		STD	1300	0463	3503	2776	0004857	1420	14911								
		STD	1400	0432	3503	2779	0004586	1467	14914								
128		OBS	T1454	0415	35022	2781			14916								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY	MARSSEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THR CODE	CLOUD CODES	NOOC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR	1/10			CRUISE NO.	STATION NUMBER	DIP	HGT			
311381	DG	3502 N	04807 W	113	58	09	25	130	1968	E17	003	3600	14	04	0			X1	6 3		0003
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS- (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB										
								36		502	213	211	172	7	14						
WESSENGER TIME OF HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S °	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ D DYN M x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	Si O ₄ -Si μg - at/l	pH	S C	
		STD	0000	2291	3636	2501		0029544		0000		15313									
130		OBS	0000	2291	36364	2501						15313									
		STD	0010	2290	3636	2502		0029562		0030		15315									
		STD	0020	2289	3636	2502		0029576		0059		15316									
130		OBS	0024	2289	36364	2502						15317									
		STD	0030	2286	3638	2504		0029410		0089		15317									
130		OBS	0049	2185	36416	2535						15295									
		STD	0050	2167	3641	2540		0026054		0144		15290									
130		OBS	0073	1863	36395	2620						15212									
		STD	0075	1854	3640	2623		0018282		0199		15209									
130		OBS	0098	1775	36416	2644						15191									
		STD	0100	1774	3642	2644		0016319		0243		15191									
		STD	0125	1761	3646	2650		0015810		0283		15192									
130		OBS	0145	1750	36464	2653						15192									
		STD	0150	1748	3646	2654		0015591		0322		15192									
130		OBS	0194	1720	36406	2656						15190									
		STD	0200	1713	3639	2657		0015455		0400		15189									
		STD	0250	1650	3628	2663		0014977		0476		15177									
130		OBS	0288	1595	36181	2668						15165									
		STD	0300	1574	3614	2670		0014454		0549		15160									
130		OBS	T0383	1434	35908	2683						15127									
		STD	0400	1405	3586	2686		0013174		0688		15120									
130		OBS	T0474	1293	35699	2697						15093									
		STD	0500	1270	3567	2699		0012105		0814		15089									
130		OBS	0567	1187	35581	2708						15071									
		STD	0600	1105	3548	2716		0010603		0928		15046									
		STD	0700	0890	3524	2734		0008827		1025		14981									
130		OBS	T0750	0800	35160	2742						14955									
		STD	0800	0730	3514	2751		0007209		1105		14936									
		STD	0900	0610	3509	2763		0005972		1171		14904									
130		OBS	0943	0566	35078	2768						14894									
		STD	1000	0549	3507	2769		0005387		1228		14896									
		STD	1100	0518	3506	2772		0005170		1280		14900									
		STD	1200	0487	3505	2775		0004956		1331		14904									
		STD	1300	0456	3504	2778		0004739		1379		14908									
		STD	1400	0426	3502	2780		0004516		1426		14912									
130		OBS	T1444	0412	35019	2781						14913									

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH FATHOMS	MARDEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
						MO	DAY	HR.	1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT.	PER.	SEA		TYPE	AMT.	

311381	DG	3458 N	04758 W	113	47	09	26	128	1968	E17	004		5000	14	36	2	3		X1	3	4	0004
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MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C

		STD	0000	2313	3646	2502	0029495	0000	15320								
128		OBS	0000	2313	36455	2502			15320								
		STD	0010	2313	3646	2502	0029513	0030	15321								
		STD	0020	2312	3646	2502	0029535	0059	15323								
128		OBS	0021	2312	36457	2502			15323								
		STD	0030	2310	3645	2502	0029558	0089	15324								
128		OBS	0041	2308	36445	2503			15325								
		STD	0050	2087	3640	2561	0024025	0142	15269								
128		OBS	0063	1871	36361	2615			15212								
		STD	0075	1810	3636	2631	0017518	0194	15196								
128		OBS	0083	1778	36360	2638			15188								
		STD	0100	1754	3638	2646	0016141	0236	15184								
		STD	0125	1727	3639	2653	0015526	0276	15181								
128		OBS	0126	1726	36391	2654			15181								
		STD	0150	1712	3638	2656	0015337	0314	15180								
128		OBS	T0166	1700	36359	2657			15179								
		STD	0200	1658	3629	2662	0014922	0390	15171								
		STD	0250	1595	3619	2669	0014398	0463	15159								
128		OBS	0251	1594	36187	2669			15159								
		STD	0300	1534	3608	2675	0014015	0534	15147								
128		OBS	0337	1485	35999	2679			15137								
		STD	0400	1388	3585	2689	0012896	0669	15114								
128		OBS	T0429	1350	35787	2692			15105								
		STD	0500	1276	3573	2702	0011787	0792	15092								
128		OBS	0512	1264													
		STD	0600	1174	3565	2716	0010644	0904	15072								
		STD	0700	1072	3557	2729	0009569	1005	15052								
		STD	0800	0972	3549	2740	0008588	1096	15031								
		STD	0900	0874	3541	2750	0007698	1178	15011								
		STD	1000	0776	3533	2759	0006862	1250	14989								
		STD	1100	0680	3525	2766	0006111	1315	14967								
		STD	1200	0585	3517	2773	0005426	1373	14945								
		STD	1300	0491	3509	2778	0004799	1424	14923								
128		OBS	T1362	0434	35042	2780			14909								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	OBT INDEX	MARSDEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		WDC STATION NUMBER
CTRY CODE	ID. NO.						10*	1*	MO	DAY	HR.1/10	CRUISE NO.	STATION NUMBER			DR	W	PER	SEA	TYPE	AMT	

311381	DG	3508 N	04734 W	113	57	09	28	127	1968	E17	006			3600	15	19	7	2		X1	6	6	0006
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WATER		WIND		AIR TEMP. °C		NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mba)	DRY BULB	WET BULB	VIS. CODE

			18	S12	122	244	239	7	14		
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MESSNGR TIME HR. 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 01/1	TOTAL-P μg - 01/1	NO ₂ -N μg - 01/1	NO ₃ -N μg - 01/1	SIO ₄ -Si μg - 01/1	pH	3 C/C
		STD	0000	2252	3623	2502	0029459	0000	15302								
127		OBS	0000	2252	36228	2502			15302								
		STD	0010	2244	3625	2506	0029150	0029	15301								
		STD	0020	2235	3626	2509	0028846	0058	15301								
127		OBS	0024	2232	36268	2511			15301								
		STD	0030	2165	3637	2538	0026213	0086	15286								
127		OBS	0048	2006	36552	2595			15249								
		STD	0050	1993	3655	2598	0020535	0133	15246								
127		OBS	0072	1889	36546	2625			15221								
		STD	0075	1883	3655	2626	0017934	0181	15219								
127		OBS	0095	1848	36538	2635			15213								
		STD	0100	1843	3654	2636	0017127	0224	15212								
		STD	0125	1820	3652	2640	0016757	0267	15209								
127		OBS	0143	1806	36512	2643			15208								
		STD	0150	1801	3651	2644	0016478	0308	15208								
127		OBS	T0191	1776	36474	2648			15207								
		STD	0200	1776	3647	2647	0016362	0390	15208								
		STD	0250	1761	3644	2649	0016404	0472	15212								
127		OBS	0284	1739	36415	2652			15211								
		STD	0300	1724	3639	2654	0016045	0554	15209								
127		OBS	0378	1623	36197	2663			15189								
		STD	0400	1575	3611	2668	0015006	0709	15177								
127		OBS	0473	1434	35873	2681			15141								
		STD	0500	1401	3582	2684	0013667	0852	15134								
127		OBS	0568	1298	35675	2694			15110								
		STD	0600	1214	3556	2701	0012072	0981	15085								
		STD	0700	0981	3528	2722	0010074	1092	15016								
127		OBS	T0759	0865	35166	2732			14981								
		STD	0800	0798	3514	2741	0008260	1183	14962								
		STD	0900	0655	3509	2757	0006618	1258	14922								
127		OBS	0956	0588	35072	2765			14905								
		STD	1000	0573	3507	2766	0005763	1320	14906								
		STD	1100	0539	3505	2769	0005504	1376	14909								
		STD	1200	0505	3504	2772	0005248	1430	14911								
		STD	1300	0471	3503	2775	0004990	1481	14914								
		STD	1400	0437	3502	2778	0004729	1529	14916								
127		OBS	T1457	0417	35008	2780			14918								

REFERENCE CITY CODE	SHIP NO.	SHIP CODE	LATITUDE °	LONGITUDE °	TIME 1/10	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
						10°	1°	MO	DAY	HR.	1/10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
311381	DG		3507 N	04800 W		113	58	09	27	128	1968	E17	005	3400	12	34	4	3		X6	6	16	0005
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. mm	DIR.	SPEED OF FORCE	mmHg	mbars	DRY BULB	WET BULB										
									09	520	173	228	217	7	14								

MESSAGE TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SIO ₄ -Si μg - ml/l	pH	S C
		STD	0000	2258	3635	2510	0028742	0000	15305								
128		OBS	0000	2258	36350	2510			15305								
		STD	0010	2251	3636	2512	0028533	0029	15305								
		STD	0020	2224	3637	2521	0027790	0057	15300								
128		OBS	0020	2224	36365	2521			15300								
		STD	0030	2180	3634	2531	0026836	0084	15290								
128		OBS	0039	2116	36316	2547			15274								
		STD	0050	1970	3650	2600	0020319	0131	15239								
128		OBS	0058	1901	36578	2624			15222								
		STD	0075	1863	3656	2633	0017311	0178	15214								
128		OBS	0077	1859	36562	2634			15213								
		STD	0100	1836	3655	2639	0016850	0221	15210								
128		OBS	0117	1822	36546	2642			15209								
		STD	0125	1817	3654	2643	0016555	0263	15209								
		STD	0150	1801	3652	2645	0016406	0304	15208								
128		OBS	T0155	1798	36518	2646			15208								
		STD	0200	1777	3651	2650	0016082	0385	15209								
128		OBS	0233	1758	36487	2653			15209								
		STD	0250	1754	3647	2653	0016000	0465	15210								
		STD	0300	1714	3638	2656	0015885	0545	15205								
128		OBS	T0311	1699	36356	2657			15203								
128		OBS	T0390	1528	36054	2674			15160								
		STD	0400	1517	3604	2675	0014242	0696	15158								
128		OBS	0467	1439	35916	2683			15142								
		STD	0500	1373	3585	2692	0012869	0831	15125								
		STD	0600	1186	3565	2714	0010880	0950	15076								
128		OBS	0619		35604												
		STD	0700	1018	3538	2724	0009992	1054	15030								
128		OBS	0772	0909	35217	2729			15000								
		STD	0800	0869	3521	2735	0008907	1149	14990								
		STD	0900	0741	3518	2752	0007277	1230	14957								
		STD	1000	0631	3514	2765	0006017	1296	14930								
		STD	1100	0541	3511	2774	0005100	1352	14910								
128		OBS	T1158	0498	35094	2777			14902								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	WASOEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODE STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR.1/10	CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	

311381		DG	3514 N	04807 W	113	58	09	29	126	1968	E17	007	5000	15	26	2	3		X2	6	8	0007
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TEMP. (°C)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

		21	S14	105	239	233	7	14	
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MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ OYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot g^{-1}$	TOTAL-P $\mu g \cdot g^{-1}$	NO ₃ -N $\mu g \cdot g^{-1}$	NO ₃ -N $\mu g \cdot g^{-1}$	SIO ₄ -S $\mu g \cdot g^{-1}$	pH	S CODE
		STD	0000	2253	3620	2500	0029674	0000	15302								
126		OBS	0000	2253	36202	2500			15302								
		STD	0010	2244	3622	2504	0029339	0030	15301								
		STD	0020	2236	3625	2508	0028944	0059	15301								
126		OBS	0024	2233	36254	2510			15301								
		STD	0030	2229	3627	2512	0028667	0087	15301								
126		OBS	0047	2216	36301	2518			15301								
		STD	0050	2174	3635	2533	0026673	0143	15291								
126		OBS	0071	1962	36547	2606			15241								
		STD	0075	1948	3654	2609	0019572	0201	15237								
126		OBS	0094	1889	36522	2623			15224								
		STD	0100	1878	3652	2626	0018083	0248	15222								
		STD	0125	1838	3652	2636	0017203	0292	15215								
126		OBS	0143	1817	36516	2641			15211								
		STD	0150	1813	3651	2641	0016764	0334	15211								
126		OBS	0191	1788	36480	2645			15210								
		STD	0200	1787	3648	2645	0016536	0417	15212								
		STD	0250	1768	3646	2649	0016402	0500	15214								
126		OBS	0288	1734	36405	2653			15210								
		STD	0300	1712	3636	2655	0015983	0581	15205								
126		OBS	0385	1576	36128	2669			15175								
		STD	0400	1566	3611	2670	0014807	0735	15174								
126		OBS	T0482	1469	35965	2680			15155								
		STD	0500	1431	3590	2683	0013714	0877	15145								
126		OBS	0581	1261	35629	2698			15099								
		STD	0600	1212	3558	2703	0011888	1005	15085								
		STD	0700	0988	3537	2728	0009538	1112	15019								
126		OBS	T0778	0858	35235	2739			14982								
		STD	0800	0839	3523	2741	0008264	1202	14979								
		STD	0900	0757	3520	2752	0007328	1279	14964								
126		OBS	0979	0698	35230	27620											
		STD	1000	0683	3518	2760	0006545	1349	14951								
		STD	1100	0618	3515	2767	0005917	1411	14942								
		STD	1200	0561	3512	2772	0005425	1468	14935								
		STD	1300	0513	3510	2776	0005060	1520	14932								
		STD	1400	0473	3507	2778	0004808	1570	14932								
126		OBS	T1483	0446	35050	2780			14935								

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DEPTH OF SOUNDING	MARSEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES TYPE AMT	NOOC STATION NUMBER
CTRY	IO, NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT			
311381	DG	3445 N	04751 W	113	47	09	30	125	1968	E17	008	5000	16	33	0	X1	6	3	0008	

WATER		WIND		BARO-		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mb)	DRY BULB	WET BULB				
		33	S12	166	233	222	7	14		

MESSAGE TIME OF HR 1/10	CAST NO.	CAST TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ σ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₃ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C
		STD	0000	2350	3640	2487	0030935	0000	15328								
125		OBS	0000	2350	36398	2487			15328								
		STD	0010	2348	3640	2487	0030919	0031	15329								
		STD	0020	2346	3640	2488	0030903	0062	15330								
125		OBS	0026	2344	36398	2488			15331								
		STD	0030	2342	3640	2489	0030829	0093	15331								
		STD	0050	2333	3641	2492	0030613	0154	15332								
125		OBS	0051	2333	36406	2492			15332								
		STD	0075	1910	3635	2604	0020007	0217	15225								
125		OBS	0077	1888	36346	2610			15219								
		STD	0100	1783	3635	2636	0017068	0264	15192								
125		OBS	0102	1776	36346	2638			15191								
		STD	0125	1759	3636	2643	0016489	0306	15190								
		STD	0150	1742	3636	2647	0016177	0347	15189								
125		OBS	0154	1739	36362	2648			15189								
		STD	0200	1714	3635	2653	0015768	0426	15189								
125		OBS	0205	1710	36343	2654			15188								
		STD	0250	1664	3626	2658	0015440	0504	15181								
		STD	0300	1604	3616	2665	0014974	0580	15170								
125		OBS	0307	1595	36141	2665			15168								
		STD	0400	1457	3592	2679	0013827	0724	15137								
125		OBS	T0411	1441	35891	2681			15133								
		STD	0500	1323	3570	2691	0012942	0858	15107								
125		OBS	T0520	1290	35666	2695			15099								
		STD	0600	1128	3551	2714	0010809	0977	15055								
125		OBS	0622	1087													
		STD	0700	0955	3536	2733	0009042	1076	15007								
		STD	0800	0810	3524	2747	0007718	1160	14968								
125		OBS	T0833	0769	35205	2750			14957								
		STD	0900	0701	3517	2757	0006712	1232	14941								
		STD	1000	0613	3512	2765	0005933	1295	14923								
125		OBS	1051	0574	35102	2769			14915								
		STD	1100	0559	3508	2769	0005591	1353	14917								
		STD	1200	0528	3505	2770	0005502	1409	14921								
		STD	1300	0497	3502	2772	0005409	1463	14924								
		STD	1400	0466	3500	2774	0005238	1516	14928								
		STD	1500	0435	3498	2775	0005064	1568	14932								
125		OBS	T1607	0402	34976	2779			14936								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE 1/10	MARDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CRUISE NO.	STATION NUMBER					CRUISE NO.	STATION NUMBER	10"	1"	MO		DAY	HR.1/10			CRUISE NO.	STATION NUMBER	DIR.	HGT		PER	SEA		TYPE	AMT
311381	DG	3503 N	04819 W	113	58	10	01	128	1968	E17	009		5000	16	25	0	2		X2	6	8	0009			
				WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS											
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mba)		DRY BULB	WET BULB	VIS. CODE													
							25	510	132	233	206	7	14												
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t × 10 ³		Σ Δ D DYN. M. x 10 ²	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SIO ₄ -Si μg - dl/l	pH	S C							
		STD	0000	2340	3638	2488	0030800		0000	15325															
128	OBS	0000	2340	36378	2488					15325															
	STD	0010	2339	3638	2488	0030828		0031	15327																
	STD	0020	2338	3637	2488	0030860		0062	15328																
128	OBS	0024	2337	36370	2488				15328																
	STD	0030	2260	3636	2510	0028842		0092	15310																
128	OBS	0047	2065	36350	2563				15262																
	STD	0050	2031	3635	2573	0022938		0143	15254																
128	OBS	0071	1852	36357	2620				15208																
	STD	0075	1836	3635	2623	0018212		0195	15204																
128	OBS	0094	1777	36345	2638				15190																
	STD	0100	1774	3636	2639	0016754		0238	15190																
	STD	0125	1761	3640	2646	0016245		0280	15191																
128	OBS	0143	1750	36416	2650				15191																
	STD	0150	1746	3641	2650	0015907		0320	15191																
128	OBS	T0190	1717	36365	2654				15188																
	STD	0200	1708	3635	2655	0015630		0399	15187																
	STD	0250	1661	3627	2660	0015299		0476	15180																
128	OBS	0292	1616	36191	2664				15172																
	STD	0300	1607	3617	2665	0014969		0552	15171																
128	OBS	T0398	1480	35946	2676				15144																
	STD	0400	1476	3594	2677	0014086		0697	15143																
128	OBS	T0496	1310	35681	2692				15102																
	STD	0500	1306	3567	2692	0012819		0832	15101																
	STD	0600	1189	3552	2703	0011891		0955	15076																
128	OBS	0600	1189	35519	2703				15076																
	STD	0700	1001	3538	2727	0009693		1063	15024																
	STD	0800	0843	3527	2744	0008029		1152	14981																
128	OBS	T0806	0834	35259	2744				14978																
	STD	0900	0718	3517	2755	0006969		1227	14948																
	STD	1000	0615	3509	2763	0006182		1292	14923																
128	OBS	1020	0597	35074	2764				14919																
	STD	1100	0570	3506	2766	0005906		1353	14921																
	STD	1200	0536	3504	2768	0005700		1411	14924																
	STD	1300	0502	3502	2771	0005490		1467	14926																
	STD	1400	0468	3500	2773	0005276		1521	14929																
	STD	1500	0434	3498	2775	0005060		1572	14931																
128	OBS	1555	0415	34967	2777				14933																

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE NO.	ID. NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE	
311381	DG	3507 N	04808 W	113 58	10	02	128	1968	E17	010	4000	16	35	3	3	X1	6	5	0010			

311381	06	3507 N	04808 W	113	58	10	02	128	1968	E17	010	4000	16	35	3	3		X1	6	5		0010
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WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		- DRY BULB	WET BULB			

		33	S18	213	222	182		14	
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MESSENGER TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-210°	$\Sigma \Delta D$ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ml/l	TOTAL-P µg - ml/l	NO ₃ -N µg - ml/l	NO ₃ -N µg - ml/l	SiO ₄ -Si µg - ml/l	pH	°C
		STD	0000	2255	3626	2504	0029295	0000	15303								
128		OBS	0000	2255	36262	2504			15303								
		STD	0010	2254	3626	2504	0029310	0029	15304								
		STD	0020	2253	3626	2504	0029327	0059	15306								
128		OBS	0023	2253	36262	2504			15306								
		STD	0030	2155	3637	2540	0025948	0086	15283								
128		OBS	0047	1973	36524	2601			15240								
		STD	0050	1954	3652	2606	0019774	0132	15235								
128		OBS	0071	1853	36500	2630			15210								
		STD	0075	1844	3650	2633	0017316	0178	15208								
128		OBS	0094	1808	36484	2641			15200								
		STD	0100	1804	3648	2641	0016593	0221	15200								
		STD	0125	1789	3647	2644	0016397	0262	15200								
128		OBS	0143	1780	36465	2646			15200								
		STD	0150	1778	3646	2646	0016296	0303	15201								
128		OBS	0191	1762	36453	2650			15203								
		STD	0200	1759	3645	2650	0016092	0384	15203								
		STD	0250	1733	3641	2653	0015943	0464	15203								
128		OBS	0288	1700	36346	2656			15199								
		STD	0300	1682	3631	2658	0015653	0543	15195								
128		OBS	T0388	1556	36065	2668			15168								
		STD	0400	1541	3604	2670	0014765	0695	15165								
128		OBS	T0491	1418	35852	2682			15139								
		STD	0500	1406	3583	2683	0013698	0837	15136								
128		OBS	0597	1257	35603	2696			15100								
		STD	0600	1249	3559	2697	0012535	0968	15097								
		STD	0700	1009	3530	2719	0010417	1083	15026								
		STD	0800	0821	3511	2735	0008845	1180	14970								
128		OBS	0813	0800	35090	2736			14964								
		STD	0900	0702	3508	2750	0007387	1261	14941								
		STD	1000	0606	3506	2761	0006273	1329	14919								
128		OBS	1028	0583	35059	2764			14914								
		STD	1100	0561	3505	2766	0005838	1390	14917								
		STD	1200	0530	3504	2769	0005604	1447	14921								
		STD	1300	0499	3502	2771	0005439	1502	14925								
		STD	1400	0468	3501	2774	0005196	1555	14929								
		STD	1500	0438	3500	2777	0004951	1606	14933								
128		OBS	T1573	0415	34988	2778			14936								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	LD CODE	NODC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO DAY HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER			
311381	DG		3450 N	04759 W	113	47	10 03 128	1968	E17	011	5000	15	02	3	5		X1	6 4	0011
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
		COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB												
					01	S08	264	217	172	7	14								
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	D ₂ m/s	PO ₄ -P μg · l ⁻¹	TOTAL-P μg · l ⁻¹	NO ₃ -N μg · l ⁻¹	NO ₃ -N μg · l ⁻¹	SiO ₄ -Si μg · l ⁻¹	PH	S	C	
		STD	0000	2340	3633	2484													
128		OBS	0000	2340	36326	2484	0031175	0000	15325										
		STD	0010	2340	3634	2485	0031102	0031	15326										
		STD	0020	2339	3635	2486	0031059	0062	15328										
128		OBS	0025	2339	36354	2487			15329										
		STD	0030	2254	3635	2511	0028750	0092	15309										
		STD	0050	1987	3634	2584	0021903	0143	15242										
128		OBS	0051	1977	36337	2586			15239										
		STD	0075	1825	3636	2627	0017876	0193	15201										
128		OBS	0076	1820	36362	2628			15199										
		STD	0100	1749	3635	2645	0016242	0235	15183										
128		OBS	0102	1745	36347	2646			15182										
		STD	0125	1742	3636	2647	0016126	0276	15185										
		STD	0150	1739	3637	2648	0016068	0316	15188										
128		OBS	0152	1739	36367	2649			15188										
		STD	0200	1686	3628	2655	0015632	0395	15180										
128		OBS	T0204	1682	36275	2655			15179										
		STD	0250	1633	3620	2661	0015174	0472	15171										
		STD	0300	1572	3611	2668	0014628	0547	15159										
128		OBS	0305	1566	36097	2669			15158										
		STD	0400	1429	3587	2681	0013601	0688	15127										
128		OBS	0406	1421	35852	2682			15126										
		STD	0500	1302	3568	2693	0012666	0819	15100										
128		OBS	0508	1288	35655	2694			15096										
		STD	0600	1076	3536	2712	0010951	0937	15034										
128		OBS	0609	1058	35335	2713			15029										
		STD	0700	0906	3522	2730	0009239	1038	14987										
		STD	0800	0773	3513	2744	0007942	1124	14952										
128		OBS	T0811	0761	35126	2745			14949										
		STD	0900	0691	3512	2755	0006929	1198	14937										
		STD	1000	0621	3510	2763	0006195	1264	14926										
128		OBS	1015	0611	35099	2764			14924										
		STD	1100	0560	3508	2769	0005607	1323	14917										
		STD	1200	0509	3506	2773	0005167	1377	14913										
		STD	1300	0468	3504	2777	0004867	1427	14913										
		STD	1400	0435	3501	2778	0004745	1475	14916										
		STD	1500	0413	3498	2778	0004767	1523	14923										
128		OBS	T1523	0409	34969	2777			14925										

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSJOEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		TYN	AMT	

311381	OG	3504 N	04816 W	113	58	10	04	127	1968	E17	012	5000	14	10	0	2	X1	6	5	0012
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WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. UNITS	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

		05	S08	227	206	167	7	14	
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MESSENGER TIME OF HR. 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	ST C
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		STD	0000	2332	3636	2489	0030743	0000	15323								
127		OBS	0000	2332	36355	2489			15323								
		STD	0010	2332	3635	2489	0030797	0031	15325								
		STD	0020	2332	3635	2488	0030844	0062	15326								
127		OBS	0024	2332	36351	2488			15327								
		STD	0030	2332	3635	2488	0030891	0092	15328								
127		OBS	0048	2332	36351	2488			15331								
		STD	0050	2284	3635	2502	0029650	0153	15319								
127		OBS	0071	1922	36327	2600			15227								
		STD	0075	1902	3633	2605	0019956	0215	15222								
127		OBS	0096	1815	36339	2628			15201								
		STD	0100	1807	3634	2630	0017679	0262	15199								
		STD	0125	1761	3635	2642	0016608	0305	15190								
127		OBS	0142	1736	36351	2648			15186								
		STD	0150	1729	3635	2650	0015947	0346	15185								
127		OBS	T0188	1696	36323	2656			15181								
		STD	0200	1687	3631	2657	0015437	0424	15180								
		STD	0250	1647	3624	2661	0015199	0501	15175								
127		OBS	0278	1621	36192	2663			15172								
		STD	0300	1599	3615	2665	0014936	0576	15168								
127		OBS	T0366	1526	36018	2672			15155								
		STD	0400	1484	3594	2675	0014257	0722	15146								
127		OBS	T0457	1406	35809	2682			15129								
		STD	0500	1340	3573	2689	0013067	0859	15113								
127		OBS	0546	1264	35635	2697			15094								
		STD	0600	1143	3548	2709	0011306	0980	15059								
		STD	0700	0952	3528	2727	0009575	1085	15005								
127		OBS	T0730	0903	35232	2731			14991								
		STD	0800	0815	3520	2743	0008091	1173	14969								
		STD	0900	0706	3516	2756	0006861	1248	14943								
127		OBS	0922	0684	35154	2758			14938								
		STD	1000	0614	3512	2765	0005947	1312	14923								
		STD	1100	0541	3509	2772	0005269	1368	14910								
		STD	1200	0485	3505	2775	0004914	1419	14903								
		STD	1300	0448	3502	2777	0004745	1467	14904								
		STD	1400	0429	3499	2777	0004812	1515	14913								
127		OBS	T1418	0427	34988	2777			14915								

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DRIFT DIRECTION	MARSOEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THES CODE	CLOUD CODES		NODC STATION NUMBER	
CHPT CODE	IO. NO.					10'	1'	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
311381	DG		3500 N	04800 W		113	58	10	04	188	1968	E17 013		4300	41	03	0	2		X1	6	5	0013
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
						COLOR CODE	TRANL UNIT	DIR.	SPEED OR FORCE	DRY BULB		WET BULB		VIL CODE									
								05	508	224		228		178		7		06					
MESSAGE TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t		S Δ D OTN, M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₃ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	PH	S C				
188		OBS	1890	0369	34957	2781					14966												
		STD	2000	0361	3495	2781	0004707				14982												
188		OBS	2368	0332	34921	2781					15032												
		STD	2500	0318	3491	2782	0004753				15048												
188		OBS	2846	0286	34882	2783					15094												
		STD	3000	0273	3488	2784	0004590				15115												
188		OBS	3329	0251																			
188		OBS	T3966	0231	34890	2788					15266												
		STD	4000	0230	3489	2788	0004357				15271												
188		OBS	T4067	0227	34890	2788					15282												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	HAUSEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	IO. NO.					10"	1"	MO	DAY	HR.1/10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMY	

311381	DG	3508 N	04820 W	113 58	10 05	125	1968	E17	014	5000	15	14	0	2	X1	6	3				0014
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTH'S	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. INT	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

		10	S08	217	222	183		14	
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MESSAGE TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl/l}$	TOTAL-P $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{dl/l}$	pH	SEC
		STD	0000	2358	3632	2478	0031757	0000	15329								
125		OBS	0000	2358	36315	2478			15329								
		STD	0010	2357	3632	2479	0031738	0032	15331								
		STD	0020	2357	3632	2479	0031730	0063	15332								
125		OBS	0026	2356	36327	2480			15333								
		STD	0030	2351	3632	2481	0031642	0095	15332								
		STD	0050	2325	3632	2488	0031007	0158	15329								
125		OBS	0051	2324	36319	2488			15329								
		STD	0075	1922	3635	2601	0020303	0222	15228								
125		OBS	0076	1911	36351	2604			15225								
		STD	0100	1798	3634	2632	0017444	0269	15197								
125		OBS	0100	1798	36343	2632			15197								
		STD	0125	1765	3636	2642	0016600	0312	15192								
		STD	0150	1741	3638	2649	0015980	0352	15189								
125		OBS	0152	1739	36386	2650			15189								
		STD	0200	1717	3636	2653	0015765	0432	15190								
125		OBS	0201	1716	36355	2653			15190								
		STD	0250	1692	3627	2652	0016015	0511	15189								
		STD	0300	1647	3618	2656	0015782	0591	15183								
125		OBS	0301	1646	36180	2656			15183								
		STD	0400	1490	3597	2676	0014167	0740	15148								
125		OBS	T0404	1484	35959	2676			15147								
		STD	0500	1337	3573	2690	0013035	0876	15112								
125		OBS	T0500	1337	35726	2690			15112								
125		OBS	0598	1163	35485	2705			15066								
		STD	0600	1159	3548	2706	0011606	1000	15065								
		STD	0700	0964	3531	2727	0009561	1106	15010								
125		OBS	T0797	0814	35197	2743			14968								
		STD	0800	0811	3520	2743	0008056	1194	14968								
		STD	0900	0710	3516	2755	0006914	1268	14945								
		STD	1000	0625	3513	2764	0006055	1333	14927								
125		OBS	1002	0623	35126	2764			14927								
		STD	1100	0553	3510	2771	0005362	1390	14915								
		STD	1200	0497	3507	2776	0004930	1442	14908								
		STD	1300	0455	3504	2778	0004692	1490	14907								
		STD	1400	0427	3501	2779	0004639	1537	14912								
		STD	1500	0414	3499	2778	0004707	1583	14923								
125		OBS	T1535	0413	34984	2778			14929								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	SUN INDIC	MARS DEN SQUARE		STATION TIME IGMT			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOQC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1'	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
311381	DG		3457 N	04802 W		113	48	10	06	126	1968	E17	015	4000	15	30	2	2		X1	3	3	0015	
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. INT.	DIR.	SPEED OF FORCE	DRY BULB	WET BULB													
						18	S14		196	233	200	7	14											

MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	EDTA-P μg - dl/l	NO ₃ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -S μg - dl/l	pH	S C
		STD	0000	2319	3628	2487	0030923	0000	15319								
126		OBS	0000	2319	36280	2487	0030923	0000	15319								
		STD	0010	2319	3628	2487	0030930	0031	15321								
		STD	0020	2318	3629	2488	0030937	0062	15322								
126		OBS	0025	2318	36287	2488			15323								
		STD	0030	2312	3629	2490	0030780	0093	15322								
126		OBS	0048	2290	36295	2496			15320								
		STD	0050	2239	3631	2512	0028709	0152	15308								
126		OBS	0073	1844	36434	2628			15207								
		STD	0075	1840	3643	2628	0017727	0210	15206								
126		OBS	0097	1798	36418	2638			15197								
		STD	0100	1795	3642	2639	0016829	0253	15197								
		STD	0125	1772	3641	2644	0016402	0295	15194								
126		OBS	0146	1758	36410	2647			15194								
		STD	0150	1757	3641	2647	0016164	0336	15194								
126		OBS	T0195	1740	36398	2651			15196								
		STD	0200	1735	3639	2651	0015966	0416	15195								
		STD	0250	1685	3630	2656	0015629	0495	15188								
126		OBS	0294	1641	36228	2661			15181								
		STD	0300	1636	3622	2662	0015257	0572	15180								
126		OBS	T0396	1536	36058	2672			15163								
		STD	0400	1531	3605	2673	0014474	0721	15162								
126		OBS	T0494	1403	35828	2684			15134								
		STD	0500	1393	3581	2685	0013573	0861	15131								
126		OBS	0588	1245	35599	2698			15094								
		STD	0600	1217	3557	2702	0012057	0989	15086								
		STD	0700	1010	3537	2724	0009924	1099	15027								
126		OBS	T0778	0883	35256	2737			14992								
		STD	0800	0860	3525	2740	0008452	1191	14987								
		STD	0900	0763	3521	2751	0007370	1270	14966								
126		OBS	0989	0686	35177	2760			14950								
		STD	1000	0677	3517	2761	0006506	1340	14949								
		STD	1100	0603	3514	2768	0005780	1401	14936								
		STD	1200	0540	3510	2773	0005304	1456	14926								
		STD	1300	0489	3507	2776	0004933	1508	14922								
		STD	1400	0449	3503	2778	0004787	1556	14922								
		STD	1500	0421	3500	2779	0004728	1604	14926								
126		OBS	T1515	0418	34996	2779			14928								

REFERENCE CTRY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
						10"	1"	MD DAY HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	

311381	OG		3500 N	04804 W	113	58	10	07 124	1968	E17	016	3400	16	34	2	2		X1	3	2	0016
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

			36	S14	213	228	189	7	14
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MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S C
		STO	0000	2319	3628	2487	0030923	0000	15319								
124		OBS	0000	2319	36280	2487			15319								
		STO	0010	2319	3628	2487	0030922	0031	15321								
		STO	0020	2318	3629	2488	0030932	0062	15322								
124		OBS	0027	2318	36290	2488			15323								
		STO	0030	2310	3629	2490	0030695	0093	15322								
		STO	0050	2253	3631	2508	0029122	0152	15311								
124		OBS	0053	2245	36309	2510			15310								
		STO	0075	1934	3640	2602	0020237	0214	15232								
124		OBS	0080	1888	36408	2615			15220								
		STO	0100	1814	3640	2633	0017382	0261	15202								
124		OBS	0106	1797	36403	2637			15198								
		STO	0125	1782	3642	2642	0016594	0304	15197								
		STO	0150	1766	3643	2647	0016231	0345	15197								
124		OBS	0161	1760	36436	2649			15197								
		STO	0200	1748	3643	2651	0015979	0425	15200								
124		OBS	0214	1741	36420	2652			15200								
		STO	0250	1707	3634	2654	0015846	0505	15195								
		STO	0300	1656	3624	2659	0015566	0583	15186								
124		OBS	0322	1633	36194	2661			15182								
		STO	0400	1550	3604	2668	0014962	0736	15168								
124		OBS	0431	1510	35973	2672			15160								
		STO	0500	1406	3580	2681	0013916	0880	15136								
124		OBS	T0535	1350	35716	2686			15122								
		STO	0600	1234	3556	2698	0012460	1012	15092								
124		OBS	0650	1146	35456	2706			15068								
		STO	0700	1051	3540	2719	0010435	1127	15042								
		STO	0800	0880	3529	2740	0008489	1221	14995								
124		OBS	T0879	0764	35212	2751			14963								
		STO	0900	0737	3519	2754	0007113	1299	14956								
		STO	1000	0620	3512	2764	0006034	1365	14925								
124		OBS	1091	0533	35063	2771			14905								
		STO	1100	0531	3506	2771	0005332	1422	14905								
		STO	1200	0505	3505	2773	0005171	1474	14911								
		STO	1300	0479	3504	2775	0005005	1525	14917								
		STO	1400	0454	3503	2777	0004836	1575	14924								
		STO	1500	0428	3502	2780	0004661	1622	14930								
124		OBS	1644	0391	35008	2782			14938								

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	MO DAY HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311381 DG 3502 N 04812 W 113 58 10 09 131 1968 E17 018 2800 15 20 3 2 X1 6 4 0018

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. MM	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

21 S18 081 228 200 7 14

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-310°	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ml/l	TOTAL-P µg - ml/l	NO ₃ -N µg - ml/l	NO ₂ -N µg - ml/l	SiO ₄ -Si µg - ml/l	pH	S OC
		STD	0000	2285	3635	2502	0029480	0000	15311								
131		OBS	0000	2285	36350	2502			15311								
		STD	0010	2285	3636	2503	0029466	0029	15313								
		STD	0020	2286	3637	2503	0029461	0059	15315								
131		OBS	0023	2286	36370	2503			15316								
		STD	0030	2280	3636	2504	0029378	0088	15315								
131		OBS	0045	2266	36351	2508			15314								
		STD	0050	2141	3637	2544	0025655	0143	15283								
131		OBS	0068	1840	36414	2627			15204								
		STD	0075	1823	3643	2633	0017320	0197	15201								
131		OBS	0091	1793	36454	2642			15195								
		STD	0100	1787	3645	2643	0016379	0239	15195								
		STD	0125	1774	3645	2647	0016173	0280	15195								
131		OBS	0138	1768	36451	2648			15196								
		STD	0150	1766	3645	2648	0016086	0320	15197								
131		OBS	T0184	1755	36428	2649			15199								
		STD	0200	1744	3641	2651	0016031	0401	15198								
		STD	0250	1705	3634	2655	0015800	0480	15194								
131		OBS	0279	1681	36297	2657			15191								
		STD	0300	1662	3628	2660	0015412	0558	15189								
131		OBS	0374	1590	36155	2668			15177								
		STD	0400	1567	3608	2667	0015047	0710	15174								
131		OBS	T0474	1478	35886	2672			15156								
		STD	0500	1435	3584	2678	0014234	0857	15145								
131		OBS	0564	1326	35728	2692			15119								
		STD	0600	1255	3563	2699	0012362	0990	15100								
		STD	0700	1074	3541	2716	0010778	1106	15051								
131		OBS	T0757	0981	35318	2725			15025								
		STD	0800	0917	3529	2734	0009109	1205	15009								
		STD	0900	0785	3523	2750	0007570	1288	14975								
131		OBS	0953	0723	35200	2756			14959								
		STD	1000	0673	3518	2762	0006373	1358	14947								
		STD	1100	0583	3513	2770	0005566	1418	14927								
		STD	1200	0513	3509	2775	0005002	1471	14915								
		STD	1300	0464	3505	2778	0004740	1519	14911								
		STD	1400	0437	3502	2778	0004699	1567	14916								
131		OBS	T1475	0430	35007	2778			14926								

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REFERENCE CTRY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° ' 10	LONGITUDE ° ' 10	MO 10	DAY 11	HR 129	YEAR 1968	ORIGINATOR'S CRUISE NO.	STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS DIR HGT PER SEA	WEA- THER CODE	CLOUD CODES TYPE AMT	NOOC STATION NUMBER

311381	DG		3459 N	04806 W	11	11	129	1968	E17	020	4400	16	35	2	2	X1	3	3	0020
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MESSINGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ OWN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - at/l$	TOTAL-P $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	NO ₂ -N $\mu g - at/l$	SiO ₄ -Si $\mu g - at/l$	pH	S C
		STD	0000	2267	3627	2501	0029579	0000	15306								
129		OBS	0000	2267	36268	2501			15306								
		STD	0010	2268	3628	2502	0029554	0030	15308								
		STD	0020	2269	3630	2503	0029473	0059	15310								
129		OBS	0024	2269	36311	2504			15311								
		STD	0030	2261	3634	2508	0029019	0088	15310								
129		OBS	0047	2239	36416	2520			15308								
		STD	0050	2175	3642	2539	0026195	0144	15293								
129		OBS	0072	1853	36462	2628			15209								
		STD	0075	1845	3646	2629	0017630	0198	15208								
129		OBS	0096	1803	36449	2639			15199								
		STD	0100	1800	3645	2640	0016715	0241	15199								
		STD	0125	1786	3646	2644	0016398	0283	15199								
129		OBS	0146	1776	36461	2647			15199								
		STD	0150	1775	3646	2647	0016210	0323	15200								
129		OBS	T0195	1760	36472	2652			15203								
		STD	0200	1759	3647	2652	0015947	0404	15203								
		STD	0250	1737	3641	2652	0016036	0484	15204								
129		OBS	0299	1706	36341	2655			15202								
		STD	0300	1705	3634	2655	0015966	0564	15202								
		STD	0400	1608	3617	2665	0015308	0720	15187								
129		OBS	T0409	1596	36155	2666			15185								
		STD	0500	1438	3593	2684	0013645	0865	15148								
129		OBS	T0516	1412	35890	2687			15141								
		STD	0600	1289	3564	2693	0012964	0998	15111								
129		OBS	0620	1258	35590	2695			15104								
		STD	0700	1094	3540	2712	0011217	1119	15058								
		STD	0800	0921	3523	2728	0009615	1223	15009								
129		OBS	T0833	0872	35192	2733			14996								
		STD	0900	0794	3518	2744	0008079	1311	14977								
		STD	1000	0690	3517	2759	0006702	1385	14954								
129		OBS	1051	0643	35158	2764			14943								
		STD	1100	0602	3515	2769	0005692	1447	14935								
		STD	1200	0530	3512	2776	0005018	1501	14922								
		STD	1300	0475	3509	2780	0004595	1549	14916								
		STD	1400	0435	3506	2782	0004379	1594	14916								
		STD	1500	0412	3502	2781	0004461	1638	14923								
129		OBS	T1594	0404	34981	2779			14935								

TABLE XII.—Observed and interpolated oceanographic data for stations taken by USCGC YAKUTAT at Ocean Station ECHO, 12 October–5 November 1968, prepared from NODC listing No. 31–1383

REFERENCE		SHIP CODE	LATITUDE " 1/10	LONGITUDE " 1/10	MARDEN SQUARE NODE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE NO.	ID. NO.					MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
311383		YA	3511 N	04756 W	113	57	10	12	216	1968	E18	001	4567	07	04		2	X8	6 7	0001
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB		WET BULB												
								04	S20	248	189	16.8	8	10						
MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ σ _t DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S.C.			
		STD	0000	2157	3631	2535	0026312	0000	15278											
216		OBS	0000	2157	36311	2535			15278											
		STD	0010	2157	3631	2535	0026354	0026	15280											
		STD	0020	2158	3631	2535	0026393	0053	15282											
216		OBS	0027	2158	36314	2535			15283											
		STD	0030	2153	3635	2539	0026040	0079	15283											
		STD	0050	2097	3650	2566	0023562	0129	15273											
216		OBS	0057	2068	36532	2577			15267											
		STD	0075	1946	3652	2608	0019667	0183	15237											
216		OBS	0087	1890	36517	2622			15223											
		STD	0100	1864	3651	2628	0017815	0229	15218											
216		OBS	0116	1836	36509	2635			15212											
		STD	0125	1824	3650	2638	0017012	0273	15210											
		STD	0150	1796	3649	2644	0016504	0315	15206											
216		OBS	0174	1778	36480	2648			15205											
		STD	0200	1773	3648	2649	0016205	0397	15208											
216		OBS	T0230	1766	36473	2650			15210											
		STD	0250	1764	3647	2650	0016235	0478	15213											
		STD	0300	1747	3644	2652	0016222	0559	15216											
216		OBS	0344	1717	36387	2655			15214											
		STD	0400	1652	3627	2662	0015581	0718	15202											
216		OBS	T0460	1568	36122	2670			15184											
		STD	0500	1504	3601	2676	0014479	0868	15170											
		STD	0600	1314	3571	2693	0012957	1005	15121											
216		OBS	T0678	1137	35439	2707			15070											

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRIFT DDCT	MARDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA			

311383	YA	3458 N	04810 W		113	48 10 13	127	1968	E18	002	4480	16	08			2	X1	0 3	0002
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WATER COLOR CODE	WIND DIR.	WIND SPEED OR FORCE	BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
				DRY BULB	WET BULB			

	08	S16	241	201	151	8	13	
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MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PD ₄ -P $\mu g - ml/l$	TOTAL-P $\mu g - ml/l$	NO ₂ -N $\mu g - ml/l$	NO ₃ -N $\mu g - ml/l$	SiO ₄ -Si $\mu g - ml/l$	PH	S C
		STO	0000	2234	3637	2518	0027939	0000	15299								
127		OBS	0000	2234	36371	2518			15299								
		STO	0010	2235	3637	2518	0028000	0028	15301								
		STO	0020	2236	3637	2518	0028055	0056	15303								
127		OBS	0027	2237	36375	2518			15304								
		STO	0030	2232	3638	2519	0027952	0084	15303								
		STO	0050	2195	3638	2530	0026976	0139	15297								
127		OBS	0053	2189	36385	2532			15296								
		STO	0075	1938	3649	2608	0019685	0197	15234								
127		OBS	0080	1902	36503	2618			15225								
		STO	0100	1856	3652	2632	0017520	0244	15216								
127		OBS	0106	1845	36530	2635			15214								
		STO	0125	1822	3652	2640	0016819	0287	15210								
		STO	0150	1797	3650	2645	0016456	0328	15207								
127		OBS	0159	1790	36498	2646			15206								
		STO	0200	1772	3648	2649	0016181	0410	15207								
127		OBS	T0212	1767	36476	2650			15208								
		STO	0250	1761	3646	2650	0016237	0491	15212								
		STO	0300	1736	3641	2653	0016181	0572	15212								
127		OBS	0316	1724	36392	2654			15211								
		STO	0400	1622	3621	2664	0015334	0730	15192								
127		OBS	T0418	1598	36175	2667			15187								
		STO	0500	1439	3591	2682	0013811	0875	15148								
		STO	0600	1254	3564	2700	0012270	1006	15100								
		STO	0700	1081	3542	2716	0010833	1121	15053								
		STO	0800	0919	3525	2730	0009435	1223	15009								
127		OBS	0830	0872	35210	2735			14996								
		STO	0900	0752	3515	2748	0007638	1308	14961								
		STO	1000	0617	3509	2762	0006210	1377	14924								
127		OBS	T1034	0581	35072	2765			14915								
		STO	1100	0547	3506	2769	0005572	1436	14912								
		STO	1200	0502	3504	2773	0005218	1490	14910								
127		OBS	1299	0466	35023	2775			14912								
		STO	1300	0466	3502	2775	0004986	1541	14912								
		STO	1400	0438	3501	2777	0004786	1590	14917								
		STO	1500	0419	3499	2778	0004774	1638	14925								
127		OBS	T1570	0411	34984	2778			14934								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CITY CODE	ID. NO.					10"	1"	MO		DAY	HR, 1/10			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA	TYPE
311383		YA	35045N	048037W	113	58	10	14	166	1968	E18	003	2688	13	10			2	X1	0	1	0003
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS.		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS								
		COLOR CODE	TRANS. MM	DIR.	SPEED OR FORCE	MMHG	INCH	DRY BULB	WET BULB	CODE	CODE											
					14	S05	223	221	177	8	14											
MESSENGER TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -S μg - dl/l	pH	S C					
		STD	0000	2145	3627	2536	0026284	0000	15275													
166		OBS	0000	2145	36271	2536			15275													
		STD	0010	2132	3627	2539	0025988	0026	15273													
		STD	0020	2123	3627	2542	0025790	0052	15272													
166		OBS	0023	2121	36265	2542			15272													
		STD	0030	2121	3627	2542	0025811	0078	15273													
166		OBS	0048	2121	36263	2542			15276													
		STD	0050	2098	3630	2551	0025034	0129	15271													
166		OBS	0072	1916	36552	2618			15228													
		STD	0075	1911	3655	2619	0018584	0183	15227													
166		OBS	0096	1878	36546	2628			15221													
		STD	0100	1871	3654	2629	0017768	0229	15220													
		STD	0125	1833	3652	2637	0017083	0272	15213													
166		OBS	0144	1811	36505	2641			15210													
		STD	0150	1807	3650	2642	0016693	0314	15209													
166		OBS	T0194	1782	36485	2647			15209													
		STD	0200	1782	3648	2647	0016388	0397	15210													
		STD	0250	1773	3647	2648	0016419	0479	15216													
166		OBS	0289	1758	36467	2652			15218													
		STD	0300	1754	3646	2652	0016242	0561	15218													
166		OBS	T0384	1693	36355	2659			15213													
		STD	0400	1671	3631	2661	0015727	0721	15208													
		STD	0500	1514	3600	2673	0014768	0873	15173													
166		OBS	T0569	1388	35800	2685			15141													
		STD	0600	1312	3569	2692	0013062	1012	15120													
		STD	0700	1084	3538	2712	0011179	1133	15054													
166		OBS	0761	0958	35246	2723			15017													
		STD	0800	0873	3519	2733	0009105	1235	14991													
		STD	0900	0696	3508	2751	0007297	1317	14938													
166		OBS	T0947	0633	35052	2757			14921													
		STD	1000	0595	3505	2762	0006168	1384	14914													
		STD	1100	0534	3506	2770	0005429	1442	14907													
166		OBS	1161	0504	35056	2774			14905													
		STD	1200	0488	3505	2775	0004955	1494	14904													
		STD	1300	0456	3504	2778	0004705	1542	14908													
166		OBS	T1339	0447	35030	2778			14911													

REFERENCE CRUISE CODE	SHIP NO.	LATITUDE * 1/10	LONGITUDE * 1/10	MARS SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE	
311383	YA	3501 N	04801 W	113	58	10	15	139	1968	E18	004	2743	15	36	4	4		X1	3	6	0004
				WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
							36	S16	197	212	182	7	14								
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DTN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₃ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C				
		STD	0000	2141	3630	2539	0025962	0000	15274												
139		OBS	0000	2141	36301	2539			15274												
		STD	0010	2141	3630	2539	0025986	0026	15276												
		STD	0020	2140	3631	2540	0025976	0052	15277												
139		OBS	0025	2139	36307	2540			15278												
		STD	0030	2138	3631	2540	0025941	0078	15278												
		STD	0050	2131	3631	2542	0025868	0130	15280												
139		OBS	0051	2131	36305	2542			15280												
		STD	0075	1923	3650	2613	0019241	0186	15230												
139		OBS	0076	1917	36508	2615			15229												
		STD	0100	1855	3654	2633	0017387	0232	15215												
139		OBS	0101	1853	36540	2634			15215												
		STD	0125	1822	3652	2640	0016819	0275	15210												
		STD	0150	1798	3651	2645	0016407	0316	15207												
139		OBS	0152	1796	36505	2645			15207												
		STD	0200	1771	3648	2649	0016157	0398	15207												
139		OBS	0203	1770	36476	2649			15207												
		STD	0250	1765	3647	2650	0016259	0479	15213												
		STD	0300	1746	3644	2652	0016198	0560	15216												
139		OBS	0305	1743	36438	2653			15216												
		STD	0400	1666	3629	2660	0015756	0720	15206												
139		OBS	0406	1659	36282	2661			15205												
		STD	0500	1502	3598	2674	0014652	0872	15169												
		STD	0600	1318	3569	2691	0013183	1011	15122												
139		OBS	T0609	1301	35668	2693			15117												
		STD	0700	1083	3540	2714	0011015	1132	15054												
		STD	0800	0890	3520	2731	0009314	1233	14997												
139		OBS	0812	0870	35186	2733			14992												
		STD	0900	0758	3518	2750	0007512	1318	14964												
		STD	1000	0651	3515	2762	0006266	1386	14938												
139		OBS	T1011	0641	35149	2764			14936												
		STD	1100	0569	3510	2769	0005587	1446	14921												
		STD	1200	0505	3505	2773	0005186	1500	14911												
139		OBS	1269	0471	35028	2775			14909												
		STD	1300	0459	3502	2776	0004892	1550	14909												
		STD	1400	0431	3500	2777	0004765	1598	14914												
		STD	1500	0421	3499	2778	0004801	1646	14926												
139		OBS	T1520	0421	34985	2777			14930												

REFERENCE		SHIP CODE	LATITUDE ° ' /10	LONGITUDE ° ' /10	OBS. NO.	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS	WEA- THER CODE	CLOUD CODES	NOOC STATION NUMBER
CRUISE CODE	ID. NO.					10°	1°	MO	DAY		CRUISE NO.	STATION NUMBER					
311383	YA		3506 N	04808 W		113	58	10	16	129	1968	E18 005	1737	15	02	3 2	0005

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TEMP. (°C)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
	02	S14	240	198	140	7	14		

WESSENGER TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot g^{-1}$	TOTAL-P $\mu g \cdot g^{-1}$	NO ₂ -N $\mu g \cdot g^{-1}$	NO ₃ -N $\mu g \cdot g^{-1}$	SiO ₄ -Si $\mu g \cdot g^{-1}$	pH	S C
		STD	0000	2129	3631	2543	0025575	0000	15271								
129		OBS	0000	2129	36311	2543			15271								
		STD	0010	2129	3631	2543	0025630	0026	15273								
		STD	0020	2130	3631	2543	0025679	0051	15275								
129		OBS	0026	2130	36308	2543			15276								
		STD	0030	2130	3631	2543	0025729	0077	15276								
		STD	0050	2128	3631	2543	0025780	0128	15279								
129		OBS	0052	2128	36306	2543			15279								
		STD	0075	1999	3656	2597	0020707	0187	15252								
129		OBS	0078	1984	36575	2602			15248								
		STD	0100	1889	3653	2624	0018279	0235	15225								
129		OBS	0104	1875	36519	2626			15222								
		STD	0125	1843	3650	2633	0017469	0280	15216								
		STD	0150	1813	3648	2639	0016981	0323	15211								
129		OBS	0156	1807	36479	2640			15210								
		STD	0200	1780	3647	2647	0016428	0407	15210								
129		OBS	T0208	1776	36471	2647			15210								
		STD	0250	1775	3646	2647	0016575	0489	15216								
		STD	0300	1758	3644	2650	0016452	0572	15219								
129		OBS	0311	1752	36441	2651			15219								
		STD	0400	1671	3630	2660	0015799	0733	15208								
129		OBS	T0412	1657	36277	2661			15206								
		STD	0500	1523	3602	2672	0014820	0886	15176								
129		OBS	T0518	1492	35972	2676			15168								
		STD	0600	1267	3564	2697	0012526	1023	15104								
		STD	0700	1033	3533	2717	0010623	1138	15035								
		STD	0800	0842	3512	2732	0009110	1237	14978								
129		OBS	0820	0809	35096	2736			14969								
		STD	0900	0698	3508	2751	0007327	1319	14939								
		STD	1000	0591	3506	2763	0006060	1386	14913								
129		OBS	T1014	0579	35055	2764			14910								
		STD	1100	0544	3505	2768	0005604	1445	14911								
		STD	1200	0508	3505	2773	0005227	1499	14913								
129		OBS	1277	0484	35040	2775			14916								
		STD	1300	0478	3504	2775	0005002	1550	14917								
		STD	1400	0453	3502	2777	0004915	1599	14923								
		STD	1500	0434	3500	2777	0004903	1649	14932								
129		OBS	T1530	0430	34997	2777			14935								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE INDEX	MARSJOEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CITY CODE	ID. NO.					10"	1'	MO	DAY	HR. 1/10	CRUISE NO.		STATION NUMBER	DIR.			HGT	PER	SEA	TYPE		AMT		
311	383	YA	3500 N	04800 W	113 58	10	17	168	1968	E18	006	2926	16	03	03	2	X1	6	6			0006		

WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		03	S20	160	223	197	8	14	

MESSNGR TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S C
		STD	0000	2119	3630	2545	0025385	0000	15268								
168		OBS	0000	2119	36301	2545			15268								
		STD	0010	2120	3630	2545	0025449	0025	15270								
		STD	0020	2121	3630	2545	0025507	0051	15272								
168		OBS	0027	2121	36295	2544			15273								
		STD	0030	2120	3629	2544	0025570	0076	15273								
		STD	0050	2112	3628	2546	0025511	0128	15274								
168		OBS	0054	2110	36281	2546			15275								
		STD	0075	1958	3645	2600	0020472	0185	15239								
168		OBS	0082	1925	36484	2611			15232								
		STD	0100	1896	3653	2622	0018450	0234	15227								
168		OBS	0109	1882	36539	2626			15225								
		STD	0125	1856	3652	2631	0017638	0279	15220								
		STD	0150	1822	3649	2638	0017124	0322	15214								
168		OBS	0162	1808	36484	2641			15212								
		STD	0200	1780	3647	2646	0016442	0406	15210								
168		OBS	T0215	1771	36466	2648			15209								
		STD	0250	1771	3646	2647	0016509	0489	15215								
		STD	0300	1755	3644	2650	0016417	0571	15218								
168		OBS	0312	1748	36435	2652			15218								
		STD	0400	1667	3628	2659	0015852	0732	15207								
168		OBS	T0404	1662	36275	2660			15206								
		STD	0500	1510	3598	2672	0014826	0886	15171								
168		OBS	T0599	1320	35686	2690			15122								
		STD	0600	1317	3568	2690	0013236	1026	15121								
		STD	0700	1044	3533	2715	0010820	1146	15039								
168		OBS	0790	0856	35130	2731			14982								
		STD	0800	0843	3513	2733	0009053	1246	14979								
		STD	0900	0725	3513	2751	0007369	1328	14950								
168		OBS	T0990	0637	35115	2762			14930								
		STD	1000	0629	3511	2762	0006237	1396	14929								
		STD	1100	0559	3508	2769	0005593	1455	14917								
		STD	1200	0503	3505	2773	0005158	1509	14911								
168		OBS	1255	0478	35032	2775			14909								
		STD	1300	0461	3502	2776	0004919	1559	14910								
		STD	1400	0432	3500	2777	0004779	1607	14914								
		STD	1500	0417	3499	2778	0004747	1655	14925								
168		OBS	T1553	0415	34980	2778			14933								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	UNIT INDIC	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT			
311383		YA	3507 N	04805 W		113	58	10	18	147	1968	E18	007	3345	15	03	2	2		X1	8	4	0007		
						WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB																
									03	S12	191	215	161	8	13										
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S CC							
		STD	0000	2149	3638	2542	0025631		0000	15277															
147		OBS	0000	2149	36376	2542				15277															
		STD	0010	2149	3638	2543	0025651		0026	15279															
		STD	0020	2150	3638	2543	0025700		0051	15281															
147		OBS	0026	2150	36382	2543				15282															
		STD	0030	2150	3638	2543	0025721		0077	15282															
		STD	0050	2148	3638	2543	0025755		0129	15285															
147		OBS	0051	2148	36382	2543				15285															
		STD	0075	2058	3661	2585	0021852		0188	15268															
147		OBS	0077	2050	36620	2588				15266															
		STD	0100	1953	3657	2610	0019606		0240	15243															
147		OBS	0101	1949	36563	2611				15242															
		STD	0125	1880	3654	2627	0018062		0287	15227															
		STD	0150	1828	3652	2638	0017044		0331	15216															
147		OBS	0151	1826	36520	2639				15215															
		STD	0200	1784	3648	2646	0016450		0415	15211															
147		OBS	T0203	1782	36480	2647				15211															
		STD	0250	1775	3648	2648	0016452		0497	15216															
		STD	0300	1757	3647	2652	0016226		0578	15219															
147		OBS	0300	1757	36472	2652				15219															
147		OBS	T0397	1688	36332	2658				15213															
		STD	0400	1681	3632	2659	0015885		0739	15211															
		STD	0500	1445	3591	2681	0013938		0888	15150															
		STD	0600	1230	3558	2700	0012237		1019	15091															
		STD	0700	1036	3532	2716	0010750		1134	15036															
147		OBS	0795	0871	35152	2730				14989															
		STD	0800	0862	3515	2732	0009216		1234	14986															
		STD	0900	0699	3507	2750	0007415		1317	14939															
147		OBS	T0995	0586	35026	2761				14910															
		STD	1000	0584	3503	2761	0006211		1385	14910															
		STD	1100	0539	3503	2767	0005711		1445	14908															
		STD	1200	0501	3503	2772	0005300		1500	14909															
147		OBS	1253	0483	35027	2774				14911															
		STD	1300	0468	3502	2775	0005013		1551	14913															
		STD	1400	0441	3501	2777	0004826		1600	14918															
		STD	1500	0420	3499	2778	0004787		1649	14926															
147		OBS	T1525	0416	34979	2777				14928															

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	IO. NO.					MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT	
311383	YA		35080N	047537W	113	57	10	19	128	1968	E18	008	3950	14	01		3	X1	8	2	0008	
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB											
									36	S06	208	210	148	8	14							
MESSAGE TIME HR 1/10	CALC NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-t	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SIO ₄ -Si μg - at/l	pH	1 C C					
		STD	0000	2160	3638	2539	0025915	0000	15280													
128		OBS	0000	2160	36377	2539			15280													
		STD	0010	2160	3638	2539	0025957	0026	15281													
		STD	0020	2159	3637	2539	0025999	0052	15283													
128		OBS	0024	2159	36372	2539			15284													
		STD	0030	2159	3638	2540	0026016	0078	15285													
128		OBS	0049	2160	36388	2540			15288													
		STD	0050	2159	3640	2541	0025919	0130	15288													
128		OBS	0074	2140	36526	2556			15289													
		STD	0075	2128	3652	2559	0024324	0193	15286													
128		OBS	0098	1908	36482	2615			15229													
		STD	0100	1903	3648	2616	0018962	0247	15228													
		STD	0125	1852	3650	2630	0017707	0293	15218													
128		OBS	0147	1819	36509	2640			15213													
		STD	0150	1816	3651	2640	0016858	0336	15212													
128		OBS	T0198	1782	36473	2646			15210													
		STD	0200	1782	3647	2646	0016490	0419	15210													
		STD	0250	1771	3647	2649	0016401	0501	15215													
128		OBS	0294	1752	36446	2651			15216													
		STD	0300	1749	3644	2652	0016269	0583	15216													
128		OBS	T0391	1677	36315	2660			15209													
		STD	0400	1664	3629	2661	0015711	0743	15206													
		STD	0500	1503	3598	2674	0014674	0895	15169													
128		OBS	T0575	1362	35755	2687			15133													
		STD	0600	1298	3566	2693	0012998	1033	15115													
		STD	0700	1062	3534	2713	0011071	1154	15045													
128		OBS	0767	0923	35192	2725			15004													
		STD	0800	0857	3516	2733	0009061	1254	14985													
		STD	0900	0690	3507	2751	0007280	1336	14936													
128		OBS	T0953	0621	35041	2758			14917													
		STD	1000	0586	3503	2762	0006209	1403	14911													
		STD	1100	0522	3502	2769	0005521	1462	14901													
128		OBS	1189	0480	35013	2773			14899													
		STD	1200	0476	3501	2773	0005087	1515	14899													
		STD	1300	0445	3500	2776	0004852	1565	14903													
		STD	1400	0431	3500	2777	0004765	1613	14914													
128		OBS	1422	0430	34996	2777			14917													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT NO.	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODE	NODC STATION NUMBER	
CTRY CODE	ID. NO.						10°	1°	MO		DAY	HR.1/10			CRUISE NO.	STATION NUMBER	DIR	HGT				PER
311383	YA		3504 N	04756 W	113	57	10	20	130	1968	E18	009	4352	16	27			2	X1	8 6		0009
							WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB													
									27	S22	126	220	192	8	14							
MESSAGE TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SiO ₄ -Si $\mu g \cdot dl/l$	pH					
		STD	0000	2152	3650	2551	0024850		0000	15279												
130		OBS	0000	2152	36495	2551				15279												
		STD	0010	2152	3650	2551	0024897		0025	15281												
		STD	0020	2153	3650	2551	0024939		0050	15283												
130		OBS	0029	2153	36496	2550				15284												
		STD	0030	2153	3650	2550	0024985		0075	15284												
		STD	0050	2153	3649	2550	0025091		0125	15288												
130		OBS	0055	2153	36491	2550				15288												
		STD	0075	2015	3659	2595	0020896		0182	15256												
130		OBS	0083	1971	36608	2608				15246												
		STD	0100	1902	3656	2623	0018380		0231	15229												
130		OBS	0110	1870	36541	2629				15221												
		STD	0125	1846	3653	2635	0017324		0276	15217												
		STD	0150	1813	3650	2641	0016837		0319	15211												
130		OBS	0163	1801	36496	2643				15210												
		STD	0200	1786	3648	2646	0016512		0402	15211												
130		OBS	T0215	1780	36479	2647				15212												
		STD	0250	1780	3647	2647	0016599		0485	15218												
		STD	0300	1765	3646	2650	0016487		0568	15221												
130		OBS	0322	1753	36457	2652				15221												
		STD	0400	1679	3632	2659	0015838		0729	15211												
130		OBS	T0425	1648	36269	2663				15205												
		STD	0500	1527	3602	2672	0014907		0883	15177												
		STD	0600	1334	3570	2688	0013435		1025	15127												
130		OBS	T0632	1265	35608	2695				15108												
		STD	0700	1050	3537	2717	0010636		1145	15042												
		STD	0800	0803	3512	2738	0008486		1241	14964												
130		OBS	0842	0723	35049	2745				14939												
		STD	0900	0663	3505	2753	0007050		1318	14925												
		STD	1000	0577	3504	2764	0005995		1384	14907												
130		OBS	T1055	0539	35040	2768				14901												
		STD	1100	0520	3503	2770	0005421		1441	14901												
		STD	1200	0484	3502	2773	0005121		1493	14902												
		STD	1300	0454	3501	2776	0004899		1543	14907												
130		OBS	1332	0446	35009	2777				14909												
		STD	1400	0431	3500	2777	0004765		1592	14914												
		STD	1500	0416	3499	2778	0004734		1639	14924												
130		OBS	T1618	0407	34977	2778				14940												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	GMT INDIC	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10	CRUISE NO.	STATION NUMBER			DIR	MG	PER	SEA		TYPE	AMT	

311383	YA	35021N	048012W	113	58	10	21	128	1968	E18	010		4023	14	32	2	2		X1	0	7	0010
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		NO. OBS. DEPTH	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. mm	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS CODE		

			32	S03	168	203	152	8	14		
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MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	TEMP °C
		STD	0000	2119	3636	2549	0024987	0000	15269								
128		OBS	0000	2119	36356	2549			15269								
		STD	0010	2120	3636	2549	0025046	0025	15271								
		STD	0020	2121	3636	2549	0025098	0050	15273								
128		OBS	0025	2121	36357	2549			15274								
		STD	0030	2120	3636	2549	0025133	0075	15274								
		STD	0050	2117	3635	2549	0025159	0125	15277								
128		OBS	0051	2117	36352	2549			15277								
		STD	0075	2114	3636	2551	0025141	0188	15280								
128		OBS	0076	2110	36356	2552			15279								
		STD	0100	1917	3651	2615	0019082	0244	15233								
128		OBS	0100	1917	36514	2615			15233								
		STD	0125	1853	3651	2631	0017638	0290	15219								
		STD	0150	1808	3650	2642	0016739	0333	15210								
128		OBS	0150	1808	36497	2642			15210								
		STD	0200	1776	3648	2648	0016297	0415	15208								
128		OBS	T0200	1776	36477	2648			15208								
		STD	0250	1771	3646	2648	0016444	0497	15215								
128		OBS	0295	1754	36453	2652			15217								
		STD	0300	1752	3645	2652	0016267	0579	15217								
128		OBS	0390	1681	36310	2658			15210								
		STD	0400	1666	3628	2659	0015829	0739	15206								
		STD	0500	1506	3598	2673	0014739	0892	15170								
128		OBS	T0577	1365	35763	2687			15134								
		STD	0600	1310	3568	2692	0013094	1031	15119								
		STD	0700	1087	3539	2712	0011162	1153	15055								
128		OBS	0768	0952	35241	2724			15016								
		STD	0800	0888	3520	2731	0009280	1255	14997								
		STD	0900	0719	3511	2750	0007424	1338	14948								
128		OBS	T0959	0643	35079	2758			14927								
		STD	1000	0617	3508	2761	0006298	1407	14924								
		STD	1100	0561	3507	2768	0005665	1467	14918								
		STD	1200	0515	3507	2773	0005176	1521	14916								
128		OBS	1205	0513	35070	2774			14916								
		STD	1300	0478	3505	2776	0004929	1571	14917								
		STD	1400	0451	3502	2777	0004888	1620	14922								
128		OBS	T1443	0442	35006	2777			14926								

REFERENCE		SNIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	WAVE DIRECTION	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		WDOC STATION NUMBER			
CITY CODE	ID. NO.					10"	1"	MO	DAY	HR.	1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA		TYPE	AMT				
311383		YA	3506 N	04803 W		113	58	10	22	135			1968	E18	011		2743	16	34	6	4		X1	8	1	0011
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
						COLOR CODE	TRANS. MM	DIR.	SPEED OR FORCE	DRY BULB	WET BULB															
									22	516	141		227	197	8	13										

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D OBS. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	Si O ₄ -Si μg - at/l	pH	DATE
		STD	0000	2108	3626	2545	0025394	0000	15265								
135		OBS	0000	2108	36260	2545			15265								
		STD	0010	2103	3626	2546	0025322	0025	15265								
		STD	0020	2098	3626	2547	0025249	0051	15266								
135		OBS	0027	2095	36255	2548			15266								
		STD	0030	2085	3624	2550	0025054	0076	15264								
		STD	0050	2023	3619	2563	0023899	0125	15250								
135		OBS	0052	2017	36184	2564			15248								
		STD	0075	1961	3621	2581	0022284	0182	15237								
135		OBS	0079	1948	36237	2586			15235								
		STD	0100	1862	3648	2627	0017984	0233	15217								
135		OBS	0104	1850	36507	2632			15214								
		STD	0125	1828	3650	2637	0017079	0277	15211								
		STD	0150	1805	3650	2643	0016639	0319	15209								
135		OBS	0156	1800	36500	2644			15208								
		STD	0200	1772	3647	2648	0016253	0401	15207								
135		OBS	0208	1768	36468	2649			15207								
		STD	0250	1759	3645	2650	0016262	0482	15211								
		STD	0300	1733	3641	2653	0016111	0563	15211								
135		OBS	0311	1725	36395	2654			15211								
		STD	0400	1632	3622	2663	0015488	0721	15195								
135		OBS	T0412	1617	36190	2664			15192								
		STD	0500	1404	3584	2684	0013584	0867	15135								
		STD	0600	1190	3553	2704	0011830	0994	15076								
		STD	0700	1004	3529	2719	0010402	1105	15024								
		STD	0800	0848	3514	2733	0009061	1202	14981								
135		OBS	0831	0805	35110	2737			14969								
		STD	0900	0723	3511	2749	0007478	1285	14949								
		STD	1000	0623	3511	2763	0006136	1353	14926								
135		OBS	T1042	0588	35113	2768			14919								
		STD	1100	0555	3509	2770	0005463	1411	14916								
		STD	1200	0505	3505	2773	0005186	1464	14911								
		STD	1300	0466	3502	2775	0004986	1515	14912								
135		OBS	1310	0463	35017	2775			14912								
		STD	1400	0437	3500	2777	0004845	1564	14916								
		STD	1500	0419	3498	2777	0004847	1613	14925								
135		OBS	T1582	0411	34979	2778			14936								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE INDEX	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER	
CTRY CODE	IO. NO.					10"	1'	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	11/1		AM1
311383		YA	35080N	047440W	113	57	10	23	129	1968	E18	012	1879	14	28			4	X1	8	2	0012	
						WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
									28	515	172	228	190	8	14								
MESSAGE TIME OF HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C						
		STD	0000	2088	3627	2551	0024788	0000	15260														
129		OBS	0000	2088	36272	2551			15260														
		STD	0010	2087	3627	2551	0024819	0025	15261														
		STD	0020	2086	3627	2552	0024834	0050	15263														
129		OBS	0024	2086	36267	2551			15263														
		STD	0030	2079	3627	2553	0024702	0074	15262														
129		OBS	0047	2060	36270	2559			15260														
		STD	0050	2045	3624	2560	0024099	0123	15256														
129		OBS	0071	1940	36177	2583			15230														
		STD	0075	1917	3621	2592	0021193	0180	15225														
129		OBS	0094	1826	36347	2626			15204														
		STD	0100	1813	3635	2629	0017735	0228	15201														
		STD	0125	1765	3637	2643	0016528	0271	15192														
129		OBS	0140	1742	36387	2649			15188														
		STD	0150	1732	3637	2651	0015872	0312	15186														
129		OBS	T0189	1692	36318	2656			15180														
		STD	0200	1681	3630	2657	0015373	0390	15178														
		STD	0250	1629	3621	2663	0015011	0466	15170														
129		OBS	0279	1599	36168	2667			15165														
		STD	0300	1576	3614	2670	0014498	0540	15161														
129		OBS	T0369	1507	36031	2677			15149														
		STD	0400	1507	3602	2676	0014170	0683	15154														
		STD	0500	1435	3589	2682	0013871	0823	15146														
129		OBS	0550	1358	35779	2689			15128														
		STD	0600	1193	3553	2703	0011887	0952	15077														
		STD	0700	0919	3519	2726	0009675	1060	14992														
129		OBS	0729	0854	35121	2731			14971														
		STD	0800	0733	3510	2747	0007548	1146	14936														
		STD	0900	0603	3507	2763	0006020	1214	14901														
129		OBS	T0910	0593	35069	2764			14899														
		STD	1000	0551	3506	2768	0005502	1271	14897														
		STD	1100	0509	3505	2773	0005125	1325	14896														
129		OBS	1154	0489	35040	2774			14897														
		STD	1200	0473	3503	2775	0004900	1375	14898														
		STD	1300	0443	3501	2777	0004752	1423	14902														
		STD	1400	0418	3498	2777	0004739	1470	14908														
129		OBS	T1412	0415	34974	2777			14909														

REFERENCE CITY CODE	SHIP ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	TIME ZONE	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
						10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
311383	YA		34581N	048021W		113	48	10	24	136	1968	F18	013	4572	43	30	5	5		X1	0	1	0013
						WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. mm	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
									29	S12	238	220	177	8	21								

MESSAGE TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl^{-1}$	TOTAL-P $\mu g \cdot dl^{-1}$	NO ₂ -N $\mu g \cdot dl^{-1}$	NO ₃ -N $\mu g \cdot dl^{-1}$	SiO ₄ -Si $\mu g \cdot dl^{-1}$	PH	S C
		STD	0000	2115	3626	2543	0025555	0000	15267								
136		OBS	0000	2115	36263	2543			15267								
		STD	0010	2115	3627	2543	0025579	0026	15269								
		STD	0020	2113	3627	2544	0025550	0051	15270								
136		OBS	0024	2112	36268	2544			15270								
		STD	0030	2108	3627	2545	0025464	0077	15270								
136		OBS	0049	2094	36256	2548			15269								
		STD	0050	2090	3625	2549	0025187	0127	15268								
136		OBS	0073	1997	36226	2572			15247								
		STD	0075	1989	3626	2577	0022624	0187	15245								
136		OBS	0098	1910	36538	2619			15231								
		STD	0100	1903	3653	2620	0018622	0239	15229								
		STD	0125	1833	3650	2636	0017228	0283	15213								
136		OBS	0148	1789	36472	2644			15204								
		STD	0150	1788	3647	2645	0016445	0326	15204								
		STD	0200	1768	3646	2649	0016217	0407	15206								
136		OBS	T0202	1767	36462	2649			15206								
		STD	0250	1763	3646	2650	0016284	0488	15213								
136		OBS	0297	1742	36428	2653			15214								
		STD	0300	1739	3642	2653	0016179	0570	15213								
136		OBS	0396	1639	36232	2662			15197								
		STD	0400	1633	3622	2663	0015510	0728	15196								
		STD	0500	1481	3594	2676	0014489	0878	15161								
136		OBS	T0599	1302	35672	2693			15116								
		STD	0600	1299	3567	2693	0012946	1015	15115								
		STD	0700	1059	3536	2715	0010871	1134	15045								
136		OBS	0796	0866	35151	2731			14987								
		STD	0800	0859	3515	2732	0009167	1234	14985								
		STD	0900	0695	3507	2750	0007355	1317	14938								
136		OBS	T0994	0582	35023	2761			14908								
		STD	1000	0579	3502	2762	0006162	1385	14908								
		STD	1100	0532	3502	2768	0005629	1444	14905								
		STD	1200	0492	3503	2773	0005192	1498	14906								
136		OBS	1246	0476	35026	2774			14907								
		STD	1300	0461	3501	2775	0004992	1549	14909								
		STD	1400	0437	3499	2776	0004919	1598	14916								
136		OBS	T1492	0419	34974	2777			14924								
		STD	1500	0418	3497	2776	0004907	1647	14925								
		STD	1750	0398	3497	2779	0004863	1769	14959								
158		OBS	1958	0381	34966	2780			14987								
		STD	2000	0378	3497	2780	0004828	1891	14992								
158		OBS	2456	0341	34963	2784			15055								
		STD	2500	0337	3496	2784	0004669	2128	15060								
158		OBS	T2949	0299	34946	2786			15121								
		STD	3000	0295	3494	2786	0004515	2358	15129								
158		OBS	T3480	0261	34921	2788			15197								
158		OBS	3965	0234	34909	2789			15271								
		STD	4000	0233	3490	2789	0004337	2800	15276								
158		OBS	T4217	0230	34890	2788			15313								
158		OBS	T4304	0230	34892	2788			15329								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARS SQUARE		STATION TIME IGMT		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TPH		AMT
311383		YA	35080N	048020W	113	58	10	25	143	1968	E18	014	3582	04	32	4	5		X2	8	8		0014
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB						
								28		S05	249	208	188	8	09								
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - at/l$	TOTAL-P $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	SiO ₄ -Si $\mu g - at/l$	pH	S C						
		STD	0000	2100	3630	2550	0024926	0000	15263														
143		OBS	0000	2100	36296	2550			15263														
		STD	0010	2089	3629	2553	0024701	0024	15262														
		STD	0020	2070	3629	2558	0024267	0049	15259														
143		OBS	0022	2065	36290	2559			15258														
		STD	0030	2034	3628	2566	0023478	0073	15250														
143		OBS	0045	1983	36276	2580			15239														
		STD	0050	1974	3629	2584	0021909	0118	15238														
143		OBS	0068	1926	36341	2600			15228														
		STD	0075	1894	3635	2608	0019639	0170	15220														
143		OBS	0089	1842	36368	2623			15208														
		STD	0100	1821	3640	2631	0017584	0217	15204														
		STD	0125	1782	3645	2644	0016390	0259	15198														
143		OBS	0134	1770	36455	2648			15196														
		STD	0150	1756	3644	2650	0015901	0299	15194														
143		OBS	0179	1730	36408	2654			15191														
		STD	0200	1714	3637	2655	0015608	0378	15189														
		STD	0250	1671	3626	2657	0015624	0456	15183														
143		OBS	0267	1655	36208	2657			15180														
		STD	0300	1621																			
143		OBS	T0355	1558	3614P	2674P																	

REFERENCE		SHIP	LATITUDE	LONGITUDE	DEPTH METER	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.	CODE	* 1/10	* 1/10		10"	1"	MO	DAY	HR.1/10	CRUISE NO.	STATION NUMBER	DIR	HGT		PER	SEA	TYPE		AMT			
311383		YA	35070N	04756 W		113	57	10	26	127	1968	E18	015	4334	15	27	X	X		X1	8	7	0015
						WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
									27	S10	210	222	190	8	14								
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - at/l$	TOTAL-P $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	SiO ₄ -Si $\mu g - at/l$	pH	S C					
		STD	0000	2108	3628	2547	0025217		0000	15265													
127		OBS	0000	2108	36285	2547				15265													
		STD	0010	2102	3629	2548	0025100		0025	15265													
		STD	0020	2093	3629	2551	0024911		0050	15265													
127		OBS	0025	2088	36286	2552				15264													
		STD	0030	2081	3627	2553	0024703		0075	15263													
		STD	0050	2051	3627	2561	0024070		0123	15258													
127		OBS	0050	2051	36266	2561				15258													
		STD	0075	1852	3636	2620	0018531		0177	15208													
127		OBS	0075	1852	36360	2620				15208													
127		OBS	0099	1790	36367	2636				15195													
		STD	0100	1789	3637	2636	0017064		0221	15195													
		STD	0125	1775	3639	2641	0016678		0263	15195													
127		OBS	0149	1760	36391	2645				15194													
		STD	0150	1759	3639	2645	0016363		0305	15194													
127		OBS	0199	1726	36365	2652				15192													
		STD	0200	1725	3636	2652	0015927		0385	15192													
		STD	0250	1672	3628	2658	0015461		0464	15183													
		STD	0300	1624	3621	2664	0015090		0540	15176													
127		OBS	0300	1624	36206	2664				15176													
127		OBS	T0397	1548	36080	2671				15167													
		STD	0400	1544	3607	2672	0014603		0689	15166													
		STD	0500	1392	3580	2684	0013652		0830	15131													
		STD	0600	1221	3556	2700	0012186		0959	15087													
127		OBS	T0600	1221																			
		STD	0700	1004	3537	2725	0009812		1069	15025													
127		OBS	0799	0823																			
		STD	0800	0821	3522	2743	0008056		1158	14972													
		STD	0900	0669	3511	2757	0006699		1232	14928													
		STD	1000	0561	3504	2765	0005808		1295	14901													
127		OBS	T1001	0560	35036	2765				14900													
		STD	1100	0525	3504	2770	0005445		1351	14903													
		STD	1200	0493	3504	2773	0005123		1404	14906													
127		OBS	1248	0479	35036	2775				14909													
		STD	1300	0465	3503	2776	0004893		1454	14911													
		STD	1400	0440	3501	2777	0004803		1502	14918													
127		OBS	T1491	0421	34988	2778				14925													

REFERENCE		SHIP CODE	LATITUDE ° ' 1/10	LONGITUDE ° ' 1/10	ORIGINATOR'S	DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS	WEATHER CODE	CLOUD CODES	NODC STATION NUMBER						
CRUISE NO.	STATION NUMBER																
311383	YA	3456 N	04750 W	113 47 10 27 134	1968	E18 016	4572	03 23	2	X2	8 8	0016					
WATER		WIND		BARO-METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
				23	516	162	222	198	8	09							
MISSING TIME OF HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PD ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	STATION
		STD	0000	2080	3628	2554	0024518	0000	15258								
134		OBS	0000	2080	36281	2554			15258								
		STD	0010	2078	3628	2555	0024510	0024	15259								
		STD	0020	2064	3628	2558	0024194	0048	15257								
134		OBS	0020	2064	36279	2558			15257								
		STD	0030	2025	3625	2567	0023432	0072	15248								
134		OBS	0043	1989	36223	2574			15240								
		STD	0050	1982	3622	2575	0022679	0118	15239								
134		OBS	0064	1969	36205	2578			15237								
		STD	0075	1902	3638	2609	0019603	0171	15223								
134		OBS	0088	1839	36517	2635			15209								
		STD	0100	1808	3650	2642	0016560	0216	15202								
		STD	0125	1757	3647	2652	0015690	0257	15191								
134		OBS	0129	1751	36462	2653			15189								
		STD	0150	1732	3645	2657	0015264	0295	15187								
134		OBS	T0172	1711	36431	2660			15184								
		STD	0200	1682	3634	2660	0015102	0371	15179								
		STD	0250	1631	3621	2662	0015058	0447	15170								
134		OBS	0260	1621	36189	2663			15169								
		STD	0300	1582	3612	2667	0014755	0521	15163								
134		OBS	T0350	1536	36082	2674			15156								

REFERENCE		SHIP CODE	LATITUDE 1°/10	LONGITUDE 1°/10	DEPTH METER	MARSEN SQUARE		STATION TIME IGMT		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT.	PER		SEA	TYPE	
311383	YA	35000N	048000W	113	58	10	28	127	1968	E18	017		3658	14	12	7	3		X1	8	3	0017
		WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB														
					28	522	183	214	177	8	14											
MESSING TIME OF HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	STATION					
		STD	0000	2067	3629	2559	0024092	0000	15255													
127		OBS	0000	2067	36294	2559			15255													
		STD	0010	2064	3629	2559	0024057	0024	15255													
		STD	0020	2061	3629	2560	0024049	0048	15256													
127		OBS	0026	2059	36282	2560			15257													
		STD	0030	2030	3627	2566	0023460	0071	15249													
		STD	0050	1933	3624	2590	0021281	0116	15226													
127		OBS	0050	1933	36241	2590			15226													
		STD	0075	1917	3631	2600	0020446	0168	15226													
127		OBS	0075	1917	36314	2600			15226													
127		OBS	0099	1840	36391	2625			15209													
		STD	0100	1839	3639	2626	0018047	0216	15209													
		STD	0125	1806	3644	2638	0016981	0260	15204													
127		OBS	0149	1781	36461	2645			15201													
		STD	0150	1781	3646	2645	0016367	0302	15201													
127		OBS	0198	1752	36396	2648			15200													
		STD	0200	1749	3639	2648	0016268	0384	15200													
		STD	0250	1675	3633	2661	0015183	0462	15185													
127		OBS	0295	1618	36270	2670			15174													
		STD	0300	1613	3626	2671	0014436	0536	15174													
127		OBS	T0392	1526	36128	2680			15160													
		STD	0400	1519	3612	2681	0013742	0677	15159													
		STD	0500	1432	3595	2687	0013391	0813	15146													
127		OBS	0586	1358	35800	2691			15134													
		STD	0600	1310	3576	2698	0012505	0942	15120													
		STD	0700	1009	3551	2735	0008908	1049	15029													
127		OBS	0781	0819																		
		STD	0800	0786	3530	2755	0006910	1128	14959													
		STD	0900	0639	3513	2763	0006079	1193	14917													
127		OBS	T0975	0559	35038	2766			14896													
		STD	1000	0548	3504	2767	0005637	1252	14895													
		STD	1100	0509	3503	2771	0005291	1307	14896													
		STD	1200	0477	3502	2774	0005026	1358	14900													
127		OBS	1216	0473																		
		STD	1300	0453	3501	2776	0004856	1408	14906													
		STD	1400	0435	3501	2777	0004777	1456	14915													
127		OBS	T1439	0430	35002	2778			14920													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INDICATOR	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CRUISE NO.	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT.	PER.	SEA		TYPE	AMT	
311383	YA	35000N	048000W	113	58	10	29	126	1968	E18	018	2926	11	30	6	5		X1	3	2		0019	

311383	YA	35000N	048000W	113	58	10	29	126	1968	E18	018	2926	11	30	6	5		X1	3	2		0018
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WATER		WIND		BARO- METER (mb)	AIR TEMP °C		VIS CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB			
			22	S06	201	218	188	8	14

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ml/l	TOTAL-P µg - ml/l	NO ₃ -N µg - ml/l	NO ₂ -N µg - ml/l	Si O ₄ -Si µg - ml/l	pH	S C
		STD	0000	2120	3631	2545	0025368	0000	15269								
126		OBS	0000	2120	36307	2545			15269								
		STD	0010	2119	3631	2545	0025378	0025	15270								
		STD	0020	2118	3631	2546	0025378	0051	15272								
126		OBS	0024	2118	36310	2546			15272								
		STD	0030	2118	3631	2546	0025415	0076	15273								
126		OBS	0047	2119	36309	2546			15276								
		STD	0050	2105	3633	2551	0024999	0127	15273								
126		OBS	0070	2016	36440	2583			15254								
		STD	0075	1995	3645	2590	0021401	0185	15249								
126		OBS	0092	1933	36468	2607			15235								
		STD	0100	1911	3648	2614	0019180	0235	15231								
		STD	0125	1853	3651	2631	0017638	0281	15219								
126		OBS	0137	1832	36518	2637			15215								
		STD	0150	1820	3651	2640	0016931	0325	15213								
126		OBS	T0181	1793	36495	2645			15210								
		STD	0200	1782	3648	2647	0016417	0408	15210								
		STD	0250	1747	3644	2652	0016053	0489	15208								
126		OBS	0263	1737	36428	2654			15207								
		STD	0300	1705	3638	2658	0015676	0568	15203								
126		OBS	T0338	1665	36315	2662			15196								
		STD	0400	1566	3614	2672	0014590	0720	15174								
126		OBS	0485	1439	35944	2685			15146								
		STD	0500	1422	3592	2687	0013380	0860	15142								
		STD	0600	1291	3574	2700	0012277	0988	15113								
126		OBS	0629	1248	35693	2705			15103								
		STD	0700	1131	3556	2717	0010739	1103	15073								
126		OBS	T0774	0999	35424	2730			15036								
		STD	0800	0940	3536	2735	0008990	1202	15018								
		STD	0900	0743	3518	2752	0007279	1283	14958								
126		OBS	0915	0718	35153	2753			14950								
		STD	1000	0594	3506	2763	0006102	1350	14914								
		STD	1100	0490	3501	2772	0005164	1406	14888								
126		OBS	T1103	0488	35010	2772			14888								

REFERENCE CITY COUNTRY	SHIP ID. NO.	LATITUDE 1/10	LONGITUDE 1/10	DRIFT DIRECTION	MARS DEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
					10'	1'	MO	DAY	HR, 1/10	CRUISE NO.		STATION NUMBER	DIR.		HGT	PER	SEA	TYPE		AMT		
311383	YA	3459 N	048055W		113	48	10	21	133	1968	ELR	020	4449	11	20	4		X1	8	7	0020	
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
					COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	METER (mb)	DRY BULB	WET BULB											
								20	519	178	229	216	8	13								
MESSENGER TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl/l}$	TOTAL-P $\mu\text{g} \cdot \text{dl/l}$	NO ₂ -N $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	SIO ₄ -Si $\mu\text{g} \cdot \text{dl/l}$	pH	S CC					
		STD	0000	2098	3630	2551	0024816	0000	15263													
133		OBS	0000	2098	36304	2551			15263													
		STD	0010	2092	3630	2552	0024727	0025	15263													
133		OBS	0018	2088	36299	2553			15263													
		STD	0020	2087	3630	2554	0024637	0049	15263													
		STD	0031	2083	3630	2555	0024558	0074	15264													
133		OBS	0040	2078	36308	2557			15264													
		STD	0050	2032	3631	2570	0023239	0122	15254													
133		OBS	0062	1992	36320	2581			15245													
		STD	0075	1976	3640	2591	0021284	0178	15243													
133		OBS	0083	1960	36426	2597			15241													
		STD	0100	1887	3640	2614	0019171	0228	15223													
133		OBS	0124	1808	36377	2632			15204													
		STD	0125	1806	3638	2633	0017452	0274	15204													
		STD	0150	1758	3639	2646	0016333	0316	15194													
133		OBS	T0162	1740	36398	2651			15191													
		STD	0200	1729	3638	2652	0015913	0397	15193													
133		OBS	0241	1700	36357	2657			15191													
		STD	0250	1688	3634	2659	0015408	0475	15189													
		STD	0300	1622	3622	2665	0014942	0551	15176													
133		OBS	T0314	1603	36186	2667			15172													
		STD	0400	1527	3604	2673	0014459	0698	15161													
		STD	0500	1400	3584	2685	0013501	0838	15134													
		STD	0600	1230	3561	2702	0012019	0965	15091													
133		OBS	0607	1216	35598	2704			15087													
		STD	0700	1000	3534	2724	0009967	1075	15023													
133		OBS	T0743	0912	35248	2731			14997													
		STD	0800	0797	3515	2742	0008171	1166	14962													
		STD	0900	0645	3505	2755	0006766	1241	14918													
133		OBS	0949	0593	35023	2760			14905													
		STD	1000	0577	3504	2764	0005979	1304	14907													
		STD	1100	0545	3509	2771	0005358	1361	14912													
133		OBS	T1142	0532	35104	2774			14913													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	HAUSDEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S' MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE NO.	STATION NUMBER					MO	DAY	HR. 1/10	CRUISE NO.		STATION NUMBER	DIR			HGT	PER	SIA		TYPE	AMT	
311383	YA	3454 N	04754 W	113 47 11	01 127	1968	E18	021			4709	14	27	4	3			Y2	8	8	0021
WATER		WIND		BARO- METER		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. M	DIR.	SPEED OR FORCE	WET BULB	DRY BULB	VIS. CODE	WET BULB	DRY BULB	VIS. CODE	WET BULB	DRY BULB										
			23	506	159	204	183	8	14												

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ σ DTN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C C
		STD	0000	2110	3627	2545	0025403	0000	15266								
127		OBS	0000	2110	36266	2545			15266								
		STD	0010	2109	3627	2545	0025406	0025	15267								
		STD	0020	2108	3627	2546	0025413	0051	15268								
127		OBS	0024	2108	36270	2546			15269								
		STD	0030	2108	3627	2546	0025421	0076	15270								
		STD	0050	2091	3628	2551	0025003	0127	15269								
127		OBS	0050	2091	36279	2551			15269								
127		OBS	0074	2036	36313	2568			15259								
		STD	0075	2027	3632	2571	0023153	0187	15256								
127		OBS	0098	1859	36362	2618			15214								
		STD	0100	1855	3637	2620	0018612	0239	15213								
		STD	0125	1814	3643	2635	0017280	0284	15207								
127		OBS	0147	1783	36451	2644			15201								
		STD	0150	1780	3645	2645	0016415	0326	15201								
127		OBS	T0195	1730	36399	2653			15193								
		STD	0200	1724	3639	2654	0015710	0406	15192								
		STD	0250	1666	3632	2663	0015050	0483	15182								
127		OBS	0288	1626													
		STD	0300	1618	3624	2668	0014707	0558	15175								
127		OBS	0377	1545	36088	2673			15163								
		STD	0400	1507	3603	2677	0014098	0702	15154								
		STD	0500	1333	3577	2694	0012634	0835	15111								
127		OBS	0548	1246	35649	2702			15088								
		STD	0600	1140	3551	2712	0011032	0954	15059								
		STD	0700	0950	3528	2727	0009541	1057	15004								
127		OBS	0719	0916	35248	2731			14994								
		STD	0800	0762	3511	2744	0007918	1144	14948								
127		OBS	T0897	0630	35023	2755			14911								
		STD	0900	0629	3503	2756	0006683	1217	14911								
		STD	1000	0598	3510	2766	0005865	1280	14916								
		STD	1100	0564	3514	2773	0005223	1335	14920								
127		OBS	1136	0551	35142	2775			14921								
		STD	1200	0527	3514	2778	0004830	1385	14922								
		STD	1300	0486	3509	2778	0004745	1433	14921								
127		OBS	T1381	0450	35032	2778			14919								

REFERENCE		SHIP	LATITUDE	LONGITUDE	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	DRIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NDDC STATION NUMBER						
CTRY CODE	ID. NO.	CODE	* 1/10	1/10		10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE		AMT					
311383		YA	3506 N	048072W		113	58	11	02	190	1968	E18	022		4206	15	30				8	X1	8	3				0022
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS												
						COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		IMBET	DRY BULB	WET BULB															
									30	S24	130	200	157	8	14													
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-10 ³		Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PD ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiD ₄ -Si μg - at/l	pH										
		STD	0000	2095	3629	2551		0024846	0000	15262																		
190		OBS	0000	2095	36289	2551				15262																		
		STD	0010	2094	3629	2551		0024871	0025	15263																		
		STD	0020	2093	3629	2551		0024892	0050	15265																		
190		OBS	0024	2093	36286	2551				15265																		
		STD	0030	2093	3629	2551		0024942	0075	15266																		
190		OBS	0048	2094	36282	2550				15269																		
		STD	0050	2084	3627	2552		0024887	0124	15267																		
190		OBS	0073	1977	36246	2579				15242																		
		STD	0075	1969	3626	2582		0022122	0183	15240																		
190		OBS	0096	1890	36388	2612				15223																		
		STD	0100	1875	3640	2617		0018879	0234	15219																		
		STD	0125	1794	3642	2639		0016877	0279	15201																		
190		OBS	0143	1751	36421	2650				15191																		
		STD	0150	1743	3641	2651		0015837	0320	15190																		
190		OBS	T0192	1696	36336	2657				15182																		
		STD	0200	1686	3632	2658		0015342	0398	15180																		
		STD	0250	1621	3620	2664		0014904	0474	15167																		
190		OBS	0288	1573	36120	2669				15158																		
		STD	0300	1558	3609	2670		0014466	0547	15155																		
190		OBS	T0386	1450	35916	2680				15132																		
		STD	0400	1440	3590	2681		0013614	0687	15131																		
		STD	0500	1335	3573	2690		0012966	0820	15111																		
190		OBS	0578	1212	35591	2704				15081																		
		STD	0600	1149	3553	2712		0011054	0940	15062																		
		STD	0700	0897	3529	2737		0008577	1039	14985																		
190		OBS	0772	0753	35168	2750				14940																		
		STD	0800	0709	3513	2753		0006967	1116	14927																		
		STD	0900	0581	3505	2764		0005860	1180	14892																		
190		OBS	0967	0520	35014	2768				14878																		
		STD	1000	0515	3503	2770		0005235	1236	14882																		
		STD	1100	0497	3507	2776		0004816	1286	14892																		
		STD	1200	0477	3508	2779		0004587	1333	14900																		
190		OBS	1217	0473	35082	2779				14902																		
		STD	1300	0454	3507	2780		0004459	1378	14907																		
		STD	1400	0430	3503	2780		0004532	1423	14914																		
190		OBS	1470	0412	34981	2778				14917																		

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE INDEX	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.						10*	1*	MO	DAY	HR, 1/10	CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA	TYPE	AMT	

311383	YA	3507 N	04802 W	113	58	11	03	138	1968	E18	023	3420	14	25				4	X1	6	6	0023
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WATER		WIND		AIR TEMP. °C		NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TEMP. (°C)	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB	

	25	S20	167	211	172	8	13
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MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S.D.D. DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₃ -N μg - ml/l	NO ₂ -N μg - ml/l	SIO ₄ -Si μg - ml/l	pH	1 C
		STD	0000	2092	3630	2552	0024696	0000	15261								
138		OBS	0000	2092	36299	2552			15261								
		STD	0010	2091	3630	2552	0024713	0025	15263								
		STD	0020	2090	3630	2553	0024735	0049	15264								
138		OBS	0024	2090	36298	2553			15265								
		STD	0030	2090	3630	2553	0024784	0074	15266								
138		OBS	0048	2091	36291	2552			15269								
		STD	0050	2061	3630	2561	0024076	0123	15261								
138		OBS	0072	1824	36346	2626			15200								
		STD	0075	1814	3636	2630	0017614	0175	15198								
138		OBS	0095	1763	36399	2645			15186								
		STD	0100	1760	3640	2646	0016151	0217	15186								
		STD	0125	1742	3639	2650	0015874	0257	15185								
138		OBS	0143	1727	36384	2653			15184								
		STD	0150	1720	3637	2653	0015594	0297	15183								
138		OBS	T0192	1678	36299	2658			15176								
		STD	0200	1669	3628	2659	0015244	0374	15174								
		STD	0250	1613	3619	2665	0014798	0449	15165								
138		OBS	0287	1572	36126	2669			15157								
		STD	0300	1559	3610	2670	0014415	0522	15155								
138		OBS	T0384	1469	35957	2680			15139								
		STD	0400	1443	3592	2682	0013532	0662	15133								
		STD	0500	1282	3571	2700	0012051	0790	15093								
		STD	0600	1126	3552	2715	0010699	0903	15054								
		STD	0700	0975	3535	2729	0009459	1004	15014								
138		OBS	0765	0880	35257	2737			14989								
		STD	0800	0819	3520	2742	0008154	1092	14971								
		STD	0900	0675	3507	2753	0007058	1168	14930								
138		OBS	0956	0613	35030	2758			14914								
		STD	1000	0590	3504	2762	0006192	1235	14912								
		STD	1100	0542	3506	2769	0005503	1293	14910								
138		OBS	1196	0501	35065	2775			14909								
		STD	1200	0499	3506	2775	0005031	1346	14909								
		STD	1300	0461	3505	2778	0004699	1394	14910								
		STD	1400	0428	3503	2780	0004506	1440	14913								
138		OBS	T1424	0421	35019	2780			14914								

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	WIND INDIC	MARSOEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER	
CTRY CODE	IO. NO.						10'	1'	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE
311383		YA	3502 N	04800 W		113	58	11	04	128	1968	E18	024	3876	16	27	4	3		X1	8	2	0024
WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTH	SPECIAL OBSERVATIONS														
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY RULR	WET RULR																	
			27	S11	158	208	178	8	13														
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Delta \rho$ OWN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl/l}$	TOTAL-P $\mu\text{g} \cdot \text{dl/l}$	NO ₂ -N $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{dl/l}$	pH	S C						
		STD	0000	2090	3629	2552	0024731	0000	15261														
128		OBS	0000	2090	36287	2552			15261														
		STD	0010	2088	3629	2553	0024710	0025	15262														
		STD	0020	2087	3629	2553	0024722	0049	15263														
128		OBS	0027	2086	36289	2553			15264														
		STD	0030	2086	3629	2553	0024729	0074	15264														
		STD	0050	2087	3629	2553	0024853	0124	15268														
128		OBS	0054	2087	36284	2552			15269														
		STD	0075	1868	3633	2614	0019128	0179	15213														
128		OBS	0081	1826	36343	2625			15202														
		STD	0100	1770	3639	2643	0016443	0223	15189														
128		OBS	0108	1752	36398	2648			15185														
		STD	0125	1740	3639	2650	0015828	0264	15185														
		STD	0150	1718	3637	2654	0015548	0303	15182														
128		OBS	0162	1706	36352	2655			15180														
		STD	0200	1658	3628	2661	0014995	0379	15171														
128		OBS	T0217	1638	36242	2663			15167														
		STD	0250	1612	3619	2665	0014776	0454	15164														
		STD	0300	1565	3610	2669	0014546	0527	15157														
128		OBS	0326	1538	36050	2671			15152														
		STD	0400	1447	3591	2681	0013688	0668	15134														
128		OBS	T0435	1400	35844	2686			15123														
		STD	0500	1249	3567	2703	0011694	0795	15082														
		STD	0600	1042	3544	2724	0009758	0902	15023														
		STD	0700	0868	3526	2739	0008320	0993	14973														
		STD	0800	0725	3513	2751	0007207	1070	14934														
128		OBS	0869	0645	35064	2757			14913														
		STD	0900	0617	3505	2759	0006365	1138	14907														
		STD	1000	0540	3503	2767	0005572	1198	14892														
128		OBS	T1075	0496	35015	2771			14886														
		STD	1100	0489	3501	2772	0005150	1251	14888														
		STD	1200	0463	3501	2775	0004914	1302	14894														
		STD	1300	0441	3501	2777	0004726	1350	14901														
128		OBS	1360	0430	35005	2778			14907														
		STD	1400	0423	3501	2779	0004622	1397	14910														
		STD	1500	0409	3501	2780	0004531	1442	14921														
128		OBS	T1633	0395	35004	2782			14938														

REFERENCE		SHIP	LATITUDE	LONGITUDE	DEPTH	MARSDEN	STATION TIME		YEAR	ORIGINATOR'S		DEPTH	MAX	WAVE			WEA-	CLOUD	NODE		
CTRY	IO.	CODE	10	11/10	INDIC	SQ	10'	1"	MO	DAY	HR.1/10	TO	DEPTH	DIR	HGT	PER	SEA	CODE		CODE	STATION
311383	YA		3458 N	04758 W		113	47	11	05	122	1968	E18	025		4389	15	28		2	Y1	0025
						WATER		WIND		BARO-		AIR TEMP. °C		NO.		SPECIAL					
						COLOR	TRANS	DIR.	SPEED	METER	DRY	WET	VIS	NO.	NO.	NO.	NO.	NO.	NO.	NO.	
						CODE	PER	FORCE	FORCE	(mbars)	BULB	BULB	CODE	DEPTHS	DEPTHS	DEPTHS	DEPTHS	DEPTHS	DEPTHS	DEPTHS	
						31	S17	308	200	185	8	13									
MESSAGE	CARD	CARD	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME		Δ D	SOUND	O ₂ ml/l	PO ₂ -P	TOTAL-P	NO ₂ -N	NO ₃ -N	SiO ₂ -Si	PH	ST			
TIME	NO.	TYPE					ANOMALY-10°	DYN. M.	VELOCITY			μg - 0.1	μg - 0.1	μg - 0.1	μg - 0.1	μg - 0.1		CODE			
HR 1/10								x 10 ³													
		STD	0000	2088	3629	2553	0024672	0000	15260												
122		OBS	0000	2088	36288	2553			15260												
		STD	0010	2087	3629	2553	0024674	0024	15261												
		STD	0020	2086	3629	2553	0024693	0049	15263												
122		OBS	0025	2086	36290	2553			15264												
		STD	0030	2086	3629	2553	0024740	0074	15264												
122		OBS	0049	2087	36286	2553			15268												
		STD	0050	2078	3629	2555	0024624	0123	15266												
122		OBS	0073	1912	36292	2599			15224												
		STD	0075	1902	3630	2602	0020210	0179	15222												
122		OBS	0097	1816	36345	2628			15202												
		STD	0100	1811	3635	2630	0017682	0226	15201												
		STD	0125	1771	3639	2643	0016523	0269	15194												
122		OBS	0144	1746	36404	2650			15190												
		STD	0150	1742	3640	2650	0015889	0310	15189												
122		OBS	T0194	1704	36346	2655			15185												
		STD	0200	1697	3633	2656	0015495	0388	15184												
		STD	0250	1639	3624	2663	0015034	0464	15173												
122		OBS	0287	1595	36165	2667			15165												
		STD	0300	1580	3614	2669	0014610	0539	15162												
122		OBS	T0378	1485	35982	2678			15143												
		STD	0400	1450	3591	2680	0013724	0680	15135												
		STD	0500	1291	3564	2692	0012739	0813	15096												
		STD	0600	1129	3541	2706	0011538	0934	15054												
		STD	0700	0964	3523	2721	0010123	1042	15009												
122		OBS	0755	0873																	
		STD	0800	0775	3510	2741	0008155	1134	14953												
		STD	0900	0605	3502	2759	0006383	1206	14901												
122		OBS	T0948	0547	35003	2764			14886												
		STD	1000	0539	3502	2766	0005643	1266	14892												
		STD	1100	0521	3505	2771	0005304	1321	14901												
		STD	1200	0500	3508	2776	0004903	1372	14910												
122		OBS	1203	0499	35079	2776			14910												
		STD	1300	0474	3507	2778	0004755	1420	14916												
		STD	1400	0445	3503	2778	0004732	1468	14920												
122		OBS	T1463	0425	34995	2778			14922												

TABLE XIII.—Observed and interpolated oceanographic data for stations taken by USCGC MC CULLOCH at Ocean Station ECHO, 6–25 November 1968, prepared from NODC listing No. 31–1385

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DATE	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	CRUISE NO.	STATION NUMBER	DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES				WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES		NOOC STATION NUMBER	
CRUISE CODE	ID. NO.				10'	1"	MO	DAY	HR. 1/10				DIR	HGT	PER	SEA					TYPE	AMT			
311385	ML	3457 N	04758 W	11/13	47	11	06	122	1968	E19	001	4297	16	17	4	3			X1	3	3		0001		
					WATER		WIND				AIR TEMP. °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS								
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO-METER (mba)		DRY BULB	WET BULB													
									16	S12	135	206	178	7	14										
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl/l}$	TOTAL-P $\mu\text{g} \cdot \text{dl/l}$	NO ₂ -N $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	SIO ₄ -Si $\mu\text{g} \cdot \text{dl/l}$	pH	S.C.C.						
		STD	0000	2108	3632	2549		0024982		0000	15266														
122		OBS	0000	2108	36317	2549					15266														
		STD	0010	2108	3632	2549		0025013		0025	15267														
		STD	0020	2108	3632	2549		0025043		0050	15269														
122		OBS	0025	2108	36319	2549					15270														
		STD	0030	2108	3632	2549		0025081		0075	15271														
		STD	0050	2108	3632	2549		0025157		0125	15274														
122		OBS	0050	2108	36319	2549					15274														
		STD	0075	1827	3634	2625		0018069		0179	15201														
122		OBS	0076	1820	36345	2627					15199														
		STD	0100	1752	3637	2645		0016189		0222	15184														
122		OBS	0101	1750	36368	2646					15183														
		STD	0125	1723	3635	2651		0015724		0262	15179														
		STD	0150	1698	3633	2656		0015378		0301	15176														
122		OBS	0152	1696	36324	2656					15175														
		STD	0200	1655	3626	2661		0015072		0377	15170														
122		OBS	T0203	1652	36251	2661					15169														
		STD	0250	1611	3619	2665		0014754		0452	15164														
		STD	0300	1557	3610	2671		0014371		0524	15154														
122		OBS	0309	1546	36081	2672					15152														
		STD	0400	1413	3585	2683		0013413		0663	15122														
122		OBS	T0417	1386	35811	2686					15116														
		STD	0500	1223	3558	2701		0011846		0790	15072														
		STD	0600	1047	3537	2718		0010359		0901	15024														
122		OBS	T0628	1001	35325	2722					15011														
		STD	0700	0886	3526	2736		0008615		0996	14980														
		STD	0800	0753	3519	2751		0007193		1075	14945														
122		OBS	0841	0707	35161	2756					14934														
		STD	0900	0658	3514	2761		0006294		1142	14924														
		STD	1000	0584	3510	2767		0005667		1202	14911														
122		OBS	1055	0549	35084	2770					14906														
		STD	1100	0538	3508	2771		0005305		1257	14908														
		STD	1200	0513	3507	2773		0005175		1309	14915														
		STD	1300	0488	3505	2775		0005034		1360	14921														
122		OBS	1325		35051																				
		STD	1400	0463	3504	2777		0004902		1410	14927														
		STD	1500	0438	3502	2778		0004809		1458	14934														
122		OBS	T1595	0414	35001	2779					14939														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT PER		SEA	TYPE		AMT
311385	ML	3453 N	04802 W	113 48	11	07	134	1968	E19	002		4755	14	20	4	4	X6	6	8	0002		
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS								
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB	DRY BULB	WET BULB									
					23	507	071	211	194	7	14											
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-210°	Σ Δ D DTN. M x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - 01/l	TOTAL-P μg - 01/l	NO ₃ -N μg - 01/l	NO ₃ -N μg - 01/l	SiO ₄ -Si μg - 01/l	pH	3 C					
		STD	0000	2100	3631	2551	0024846	0000	15263													
134		OBS	0000	2100	36307	2551			15263													
		STD	0010	2100	3631	2551	0024884	0025	15265													
		STD	0020	2100	3631	2551	0024915	0050	15267													
134		OBS	0025	2100	36308	2551			15268													
		STD	0030	2100	3631	2551	0024952	0075	15268													
134		OBS	0048	2100	36308	2551			15271													
		STD	0050	2078	3631	2557	0024442	0124	15266													
134		OBS	0073	1876	36326	2611			15214													
		STD	0075	1865	3633	2614	0019055	0178	15212													
134		OBS	0097	1775	36395	2642			15190													
		STD	0100	1775	3640	2642	0016502	0223	15191													
		STD	0125	1767	3642	2646	0016241	0264	15193													
134		OBS	0144	1753	36437	2651			15192													
		STD	0150	1745	3642	2651	0015812	0304	15190													
134		OBS	T0192	1688	36313	2657			15179													
		STD	0200	1679	3630	2658	0015327	0382	15178													
		STD	0250	1621	3621	2665	0014832	0457	15167													
134		OBS	0283	1581	36145	2669			15160													
		STD	0300	1560	3610	2670	0014437	0530	15155													
134		OBS	T0371	1471	35942	2678			15137													
		STD	0400	1435	3588	2681	0013654	0671	15130													
		STD	0500	1299	3567	2693	0012679	0802	15099													
134		OBS	T0565	1198	35547	2704			15074													
		STD	0600	1131	3548	2711	0011083	0921	15055													
		STD	0700	0949	3531	2730	0009305	1023	15004													
134		OBS	0745	0871	35243	2737			14982													
		STD	0800	0763	3515	2747	0007640	1108	14949													
		STD	0900	0613	3503	2758	0006455	1178	14905													
134		OBS	T0932	0578	35006	2761			14896													
		STD	1000	0561	3504	2765	0005787	1240	14901													
		STD	1100	0534	3507	2771	0005319	1295	14907													
134		OBS	1182	0510	35082	2775			14911													
		STD	1200	0504	3508	2776	0004952	1346	14911													
		STD	1300	0472	3506	2778	0004774	1395	14915													
		STD	1400	0437	3502	2778	0004699	1442	14916													
134		OBS	T1437	0423	34994	2778			14917													

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPT INCH	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE CODE	IO. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	

311385	ML		3457 N	048125W		113	48	11	08	123	1968	E19	003		4480	15	05	2	5		X1	6	5	0003
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WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			

		06	S14	213	183	139	7	14	
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MESSAGE TIME HR 1/10	CAST NO.	CAPO TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME AND MALT-1807	$\frac{\Delta \rho}{\rho_0}$ DYN. M x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	TOTAL-P µg - at/l	NO ₂ -N µg - at/l	NO ₃ -N µg - at/l	SIO ₄ -Si µg - at/l	pH	ST C
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		STO	0000	2089	3632	2554	0024488	0000	15261								
123		OBS	0000	2089	36317	2554			15261								
		STO	0010	2089	3632	2555	0024515	0025	15262								
		STO	0020	2090	3632	2554	0024563	0049	15264								
123		OBS	0024	2090	36323	2555			15265								
		STO	0030	2090	3632	2554	0024613	0074	15266								
123		OBS	0047	2091	36319	2554			15269								
		STO	0050	2091	3632	2554	0024701	0123	15269								
123		OBS	0071	2087	36319	2555			15272								
		STO	0075	2026	3633	2572	0023055	0183	15256								
123		OBS	0094	1801	36351	2632			15197								
		STO	0100	1792	3635	2634	0017237	0233	15195								
		STO	0125	1755	3636	2644	0016424	0275	15189								
123		OBS	0142	1731	36358	2650			15184								
		STO	0150	1721	3635	2652	0015762	0315	15183								
123		OBS	T0191	1670	36277	2658			15173								
		STO	0200	1659	3626	2660	0015163	0393	15171								
		STO	0250	1599	3616	2666	0014704	0467	15160								
123		OBS	0287	1551	36081	2671			15150								
		STO	0300	1533	3605	2672	0014211	0540	15146								
123		OBS	0383	1418	35859	2683			15121								
		STO	0400	1395	3582	2685	0013258	0677	15116								
		STO	0500	1258	3562	2698	0012234	0804	15084								
123		OBS	T0578	1148	35480	2708			15058								
		STO	0600	1116	3545	2711	0011024	0921	15050								
		STO	0700	0968	3530	2726	0009703	1024	15011								
123		OBS	0770	0862	35210	2736			14982								
		STO	0800	0802	3516	2742	0008177	1114	14964								
		STO	0900	0637	3503	2755	0006797	1189	14914								
123		OBS	0963	0562	34986	2761			14894								
		STO	1000	0548	3500	2764	0005902	1252	14895								
		STO	1100	0513	3503	2770	0005326	1308	14898								
		STO	1200	0482	3503	2774	0005021	1360	14902								
123		OBS	1210	0479	35034	2775			14902								
		STO	1300	0455	3503	2777	0004765	1409	14907								
		STO	1400	0433	3500	2777	0004792	1457	14915								
123		OBS	T1460	0421	34976	2777			14919								

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REFERENCE	SHIP	LATITUDE	LONGITUDE	DRIFT	MARDEN		STATION TIME			YEAR	ORIGINATOR'S		DEPTH	MAX. DEPTH	WAVE				WEA-	CLOUD	NODC
					10"	1'	MO	DAY	HR./10		CRUISE	STATION			DIR	HGT	PER	SEA			
CTRY	ID.										NO.	NUMBER	TO	OF					CODE	TYPE	STATION
CODE	NO.												BOTTOM	SAMPLES						AMT	NUMBER

311385	ML	3507 N	04759 W	113	57	11	10	134	1968	E19	005	2834	17	22	2	3			X1	2	2	0005
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WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. 1ml	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
		27	513	186	211	189	7	14	

MESSNGR	CAS	CARD	DEPTH	T °C	S %	SIGMA-T	SPECIFIC VOLUME	Σ Δ D	SOUND	O ₂	PO ₄ -P	TOTAL-P	NO ₂ -N	NO ₃ -N	SiO ₄ -Si	pH
TIME	NO.	TYPE	(m)				ANOMALY-10 ⁷	DYN. M.	VELOCITY	ml/l	μg - dl/l	μg - dl/l	μg - dl/l	μg - dl/l	μg - dl/l	
HR 1/10								X 10 ³								
		STD	0000	2002	3619	2568	0023154	0000	15236							
134		OBS	0000	2002	36194	2568			15236							
		STD	0010	2002	3620	2569	0023176	0023	15237							
		STD	0020	2001	3620	2569	0023189	0046	15239							
134		OBS	0028	2001	36198	2569			15240							
		STD	0030	2001	3620	2569	0023201	0070	15241							
		STD	0050	1999	3621	2570	0023168	0116	15243							
134		OBS	0054	1999	36210	2570			15244							
		STD	0075	1886	3619	2598	0020601	0171	15216							
134		OBS	0082	1863	36179	2603			15211							
		STD	0100	1852	3641	2624	0018249	0219	15213							
134		OBS	0109	1843	36480	2631			15213							
		STD	0125	1807	3645	2638	0016969	0263	15205							
		STD	0150	1759	3641	2647	0016211	0305	15194							
134		OBS	0163	1739	36387	2650			15190							
		STD	0200	1706	3634	2655	0015656	0384	15186							
134		OBS	T0221	1684	36312	2658			15183							
		STD	0250	1643	3625	2663	0015036	0461	15174							
		STD	0300	1574	3613	2669	0014527	0535	15160							
134		OBS	0328	1536	36068	2673			15152							
		STD	0400	1444	3591	2681	0013625	0676	15133							
134		OBS	T0436	1391	35826	2686			15121							
		STD	0500	1253	3562	2698	0012136	0805	15083							
		STD	0600	1065	3538	2715	0010607	0918	15031							
134		OBS	T0661	0966	35282	2725			15004							
		STD	0700	0917	3527	2732	0009034	1016	14992							
		STD	0800	0798	3525	2749	0007462	1099	14963							
134		OBS	0873	0716	35231	2760			14944							
		STD	0900	0680	3519	2762	0006252	1168	14933							
		STD	1000	0568	3507	2767	0005664	1227	14904							
134		OBS	1092	0496	35001	2770			14889							
		STD	1100	0495	3500	2770	0005289	1282	14890							
		STD	1200	0480	3502	2773	0005089	1334	14901							
		STD	1300	0465	3503	2776	0004885	1384	14911							
134		OBS	1368	0454	35042	2778			14918							
		STD	1400	0449	3504	2779	0004714	1432	14922							
		STD	1500	0431	3503	2780	0004643	1478	14931							
134		OBS	T1655	0403	34996	2780			14945							

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCHES	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.						10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TYPE	
311385	ML		3457 N	04809 W		113	48	11	11	134	1968	E19	006	4572	15	28	4	2		X1	3	6	0006
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE	(mb)	DRY BULB	WET BULB											
								19	502	244	211	194	7	14									
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -Si μg - ml/l	pH	1 0/1						
		STD	0000	2049	3630	2564	0023567	0000	15250														
134		OBS	0000	2049	36302	2564			15250														
		STD	0010	2047	3630	2565	0023563	0024	15251														
		STD	0020	2046	3630	2565	0023559	0047	15252														
134		OBS	0025	2045	36302	2565			15253														
		STD	0030	2031	3629	2568	0023313	0071	15250														
		STD	0050	1958	3624	2583	0021923	0116	15233														
134		OBS	0051	1954	36234	2584			15232														
		STD	0075	1830	3637	2626	0017923	0166	15202														
134		OBS	0076	1826	36376	2628			15201														
		STD	0100	1768	3639	2643	0016396	0209	15189														
134		OBS	0101	1766	36394	2644			15188														
		STD	0125	1740	3638	2649	0015900	0249	15184														
		STD	0150	1715	3636	2654	0015551	0288	15181														
134		OBS	0152	1713	36356	2654			15181														
		STD	0200	1672	3628	2658	0015313	0365	15175														
134		OBS	T0201	1671	36277	2658			15175														
		STD	0250	1617	3619	2664	0014888	0441	15166														
		STD	0300	1556	3609	2670	0014422	0514	15154														
134		OBS	0305	1550	36083	2671			15153														
		STD	0400	1418	3585	2682	0013517	0654	15124														
134		OBS	T0404	1412	35841	2683			15122														
		STD	0500	1265	3562	2696	0012371	0783	15087														
		STD	0600	1113	3545	2712	0010969	0900	15049														
134		OBS	T0610	1098	35430	2713			15045														
		STD	0700	0959	3534	2731	0009256	1001	15008														
		STD	0800	0815	3525	2747	0007724	1086	14970														
134		OBS	0812	0798	35235	2748			14965														
		STD	0900	0664	3513	2759	0006456	1157	14926														
		STD	1000	0552	3505	2767	0005590	1217	14897														
134		OBS	1015	0539	35038	2768			14894														
		STD	1100	0512	3504	2771	0005261	1271	14897														
		STD	1200	0483	3504	2774	0004990	1323	14902														
134		OBS	1269	0464	35035	2777			14906														
		STD	1300	0456	3503	2777	0004779	1371	14908														
		STD	1400	0431	3501	2778	0004692	1419	14914														
		STD	1500	0409	3498	2778	0004713	1466	14921														
134		OBS	T1526	0404	34971	2778			14923														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER			
CTRY CODE	ID. NO.					10°	1°	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TYPE		AMT		
311385	ML		3501 N	04758 W		113	57	11	12	130	1968	E19	007		4572	17	29	2	2		X6	6	6	0007	
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
COLOR CODE		TRANS. (m)		DIR.	SPEED OF FORCE		BARO- METER (mb)		DRY BULB		WET BULB														
					29		S15		179		211		200		7		14								
MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY		D ₂ ml/l	PO ₄ -P $\mu g - \mu l/l$	TOTAL-P $\mu g - \mu l/l$	NO ₃ -N $\mu g - \mu l/l$	NO ₃ -N $\mu g - \mu l/l$	SiO ₄ -Si $\mu g - \mu l/l$	pH						
		STD	0000	2071	3639	2565		0023502		0000	15257														
130		OBS	0000	2071	36389	2565					15257														
		STD	0010	2071	3638	2564		0023601		0024	15258														
		STD	0020	2072	3638	2564		0023690		0047	15260														
130		OBS	0028	2072	36370	2563					15261														
		STD	0030	2072	3637	2563		0023771		0071	15262														
		STD	0050	2072	3638	2564		0023767		0118	15265														
130		OBS	0055	2072	36385	2564					15266														
		STD	0075	1958	3626	2585		0021876		0176	15237														
130		OBS	0083	1930	36204	2588					15230														
		STD	0100	1923	3645	2609		0019694		0227	15234														
130		OBS	0110	1913	36548	2619					15234														
		STD	0125	1866	3651	2628		0017952		0275	15222														
		STD	0150	1802	3646	2640		0016864		0318	15208														
130		OBS	0164	1774	36431	2645					15201														
		STD	0200	1737	3638	2650		0016085		0400	15196														
130		OBS	T0218	1714	36348	2653					15192														
		STD	0250	1656	3625	2660		0015330		0479	15178														
		STD	0300	1564	3608	2668		0014670		0554	15156														
130		OBS	0322	1522	36014	2672					15146														
		STD	0400	1365	3575	2686		0013152		0693	15105														
130		OBS	T0426	1316	35678	2690					15092														
		STD	0500	1194	3551	2701		0011802		0818	15061														
		STD	0600	1041	3534	2716		0010471		0929	15021														
130		OBS	T0647	0975	35277	2723					15005														
		STD	0700	0905	3527	2734		0008856		1026	14987														
		STD	0800	0783	3524	2751		0007292		1107	14957														
130		OBS	0877	0698	35203	2760					14937														
		STD	0900	0672	3518	2762		0006207		1174	14930														
		STD	1000	0572	3509	2768		0005573		1233	14906														
		STD	1100	0497	3502	2772		0005184		1287	14891														
130		OBS	1107	0493	35017	2772					14891														
		STD	1200	0466	3500	2774		0005027		1338	14895														
		STD	1300	0442	3499	2775		0004886		1387	14901														
130		OBS	1396	0422	34980	2777					14909														
		STD	1400	0421	3498	2777		0004779		1436	14909														
		STD	1500	0405	3497	2778		0004733		1483	14919														
130		OBS	T1681	0388	34966	2779					14943														

REFERENCE		SHIP CODE	LATITUDE ° 1' 10"	LONGITUDE ° 1' 10"	LAUNCH MO	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.						MO	DAY	HR 1-10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
311385	ML		35065N	048145W	113	58	11	13	141	1968	E19	008	4389	15	29	4	3	X2	6	8	0008
		WATER		WIND		BARO- METER	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
		COLOR CODE	TRANS. (m)	DIR.	SPEED (kts)		DRY BULB	WET BULB													
				17	S08	190	206	189	7	14											
MESSAGE TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S °	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	S.S.D. DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{ml}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₂ -N $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{ml}^{-1}$	SiO ₄ -Si $\mu\text{g} \cdot \text{ml}^{-1}$	pH	S C				
		STD	0000	2033	3625	2565	0023520	0000	15245												
141		OBS	0000	2033	36252	2565			15245												
		STD	0010	2008	3625	2571	0022952	0023	15240												
		STD	0020	1985	3624	2577	0022445	0046	15235												
141		OBS	0025		36241																
		STD	0030	1966	3624	2581	0022035	0068	15231												
		STD	0050	1936	3623	2589	0021420	0112	15226												
141		OBS	0051	1935	36230	2589			15226												
		STD	0075	1917	3622	2593	0021106	0165	15225												
141		OBS	0076	1916	36222	2593			15225												
		STD	0100	1874	3635	2614	0019217	0215	15219												
141		OBS	0101	1872	36356	2615			15218												
		STD	0125	1800	3638	2635	0017310	0261	15202												
		STD	0150	1744	3638	2648	0016078	0303	15190												
141		OBS	0152	1740	36384	2650			15189												
		STD	0200	1692	3632	2656	0015479	0381	15182												
141		OBS	0203	1689	36315	2657			15181												
		STD	0250	1616	3620	2665	0014793	0457	15166												
		STD	0300	1549	3608	2671	0014341	0530	15152												
141		OBS	0305	1543	36072	2672			15151												
		STD	0400	1450	3590	2679	0013824	0671	15135												
141		OBS	T0409	1439	35885	2680			15132												
		STD	0500	1262	3562	2697	0012312	0802	15086												
		STD	0600	1086	3540	2713	0010840	0917	15038												
141		OBS	0613	1065	35381	2715			15033												
		STD	0700	0937	3530	2731	0009174	1017	15000												
		STD	0800	0796	3521	2746	0007716	1102	14962												
141		OBS	0812	0780	35194	2748			14958												
		STD	0900	0644	3508	2758	0006531	1173	14918												
		STD	1000	0533	3500	2766	0005698	1234	14889												
141		OBS	T1010	0524	34995	2766			14887												
		STD	1100	0497	3500	2770	0005330	1289	14891												
		STD	1200	0471	3500	2773	0005094	1341	14897												
141		OBS	1269	0457	35003	2775			14903												
		STD	1300	0451	3500	2775	0004910	1391	14905												
		STD	1400	0437	3500	2777	0004831	1440	14916												
		STD	1500	0428	3500	2778	0004815	1488	14929												
141		OBS	T1516	0427	35001	2778			14932												

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPLS	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
					10"	1'	MO	DAY		HR	1/10"			CRUISE NO.	STATION NUMBER	DIR.		HGT	PER		SEA	TYPE
311385	ML	3502 N	04808 W	113	58	11	18	026	1968	E19	009	2743	15	31	5	2		X6	5	8	0009	
				WATER		WIND		AIR TEMP. °C		SPECIAL OBSERVATIONS												
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mba)	DRY BULB	WET BULB	VIS CODE	NO. OBS. DEPTHS										
							31	519	176	200	194	6	14									

MESSAGE TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot ml/l$	TOTAL-P $\mu g \cdot ml/l$	NO ₂ -N $\mu g \cdot ml/l$	NO ₃ -N $\mu g \cdot ml/l$	SiO ₄ -Si $\mu g \cdot ml/l$	pH	S C
		STD	0000	1983	3624	2577	0022315	0000	15231								
026		OBS	0000	1983	36244	2577			15231								
		STD	0010	1983	3626	2578	0022245	0022	15233								
		STD	0020	1984	3627	2579	0022220	0045	15235								
026		OBS	0026	1984	36271	2579			15236								
		STD	0030	1982	3627	2579	0022247	0067	15236								
		STD	0050	1938	3624	2589	0021426	0110	15227								
026		OBS	0051	1934	36236	2590			15226								
		STD	0075	1805	3634	2631	0017516	0159	15195								
026		OBS	0076	1801	36348	2632			15194								
		STD	0100	1764	3636	2642	0016520	0202	15187								
026		OBS	0103	1760	36361	2643			15186								
		STD	0125	1729	3634	2649	0015935	0242	15181								
		STD	0150	1697	3631	2654	0015500	0282	15175								
026		OBS	0153	1694	36307	2655			15175								
		STD	0200	1649	3624	2660	0015082	0358	15168								
026		OBS	T0202	1647	36238	2661			15168								
		STD	0250	1599	3620	2669	0014414	0432	15160								
		STD	0300	1542	3611	2675	0013949	0503	15150								
026		OBS	0300	1542	36113	2675			15150								
026		OBS	T0393	1419	35852	2682			15123								
		STD	0400	1406	3583	2683	0013413	0639	15120								
		STD	0500	1227	3555	2698	0012142	0767	15073								
026		OBS	T0584	1079	35369	2712			15033								
		STD	0600	1046	3535	2716	0010487	0880	15023								
		STD	0700	0862	3524	2739	0008369	0975	14971								
026		OBS	0773	0755	35180	2750			14941								
		STD	0800	0726	3517	2754	0006929	1051	14935								
		STD	0900	0630	3512	2763	0006036	1116	14913								
026		OBS	T0964	0579	35090	2767			14903								
		STD	1000	0557	3508	2769	0005438	1173	14900								
		STD	1100	0504	3504	2772	0005131	1226	14894								
		STD	1200	0462	3501	2775	0004901	1276	14893								
026		OBS	1217	0456	35008	2775			14894								
		STD	1300	0432	3499	2777	0004754	1325	14897								
		STD	1400	0414	3498	2778	0004687	1372	14906								
026		OBS	T1484	0408	34970	2778			14918								

REFERENCE		SHIP CODE	LATITUDE 1-10	LONGITUDE 1-10	DATE MO DAY	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPLES	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10*	1*	MO	DAY	HR 1-10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
311385		ML	3502 N	04804 W	113	58	11	19	125	1968	E19	010	2926	14	34	3	2		X5	6	8	0010	
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
		COLOR CODE	TEMP. °C	DIR	SPEED KTS FORCE	IMBET		DRY BULB	WET BULB														
			10	S10	244	178	161	5	14														
MESSAGE TIME HR 1-10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	S. L. D. DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₃ -N μg - ml/l	NO ₂ -N μg - ml/l	SIO ₄ -Si μg - ml/l	pH	S C C						
		STD	0000	1937	3624	2589	0021214	0000	15219														
125		OBS	0000	1937	36238	2589			15219														
		STD	0010	1939	3624	2589	0021277	0021	15221														
		STD	0020	1941	3624	2588	0021358	0043	15223														
125		OBS	0023	1941	36241	2588			15223														
		STD	0030	1939	3625	2589	0021285	0064	15224														
125		OBS	0048	1934	36257	2591			15226														
		STD	0050	1933	3625	2591	0021218	0106	15226														
125		OBS	0071	1927	36248	2592			15228														
		STD	0075	1908	3627	2599	0020538	0159	15223														
125		OBS	0095	1830	36350	2625			15205														
		STD	0100	1820	3636	2628	0017880	0207	15203														
		STD	0125	1773	3638	2641	0016686	0250	15194														
125		OBS	0144	1740	36396	2651			15188														
		STD	0150	1731	3638	2652	0015776	0290	15186														
125		OBS	T0191	1672	36275	2658			15174														
		STD	0200	1659	3626	2660	0015163	0368	15171														
		STD	0250	1591	3615	2667	0014600	0442	15157														
125		OBS	0284	1546	36075	2671			15148														
		STD	0300	1529	3604	2673	0014197	0514	15145														
125		OBS	T0373	1437	35880	2681			15126														
		STD	0400	1390	3580	2684	0013301	0652	15114														
		STD	0500	1214	3554	2700	0011965	0778	15068														
125		OBS	T0560	1107	35411	2710			15039														
		STD	0600	1017	3534	2721	0010048	0888	15013														
		STD	0700	0833	3521	2741	0008122	0979	14960														
125		OBS	0744	0769	35178	2748			14942														
		STD	0800	0721	3517	2754	0006838	1054	14933														
		STD	0900	0642	3516	2764	0005915	1117	14918														
125		OBS	T0928	0621	35157	2767			14914														
		STD	1000	0562	3510	2770	0005360	1174	14902														
		STD	1100	0497	3503	2772	0005110	1226	14891														
125		OBS	1169	0463	34999	2774			14888														
		STD	1200	0458	3500	2774	0004944	1276	14891														
		STD	1300	0440	3499	2775	0004895	1326	14900														
		STD	1400	0422	3497	2776	0004840	1374	14910														
125		OBS	T1413	0420	34972	2776			14911														

REFERENCE		SHIP CODE	LATITUDE ° ' 10	LONGITUDE ° ' 10	MARS INDIC	MARS SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
311385	ML		3510 N	04756 W	113	57	11	20	122	1968	E19	011		3658	16	28	2	4		X1	2	7	0011
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTH'S	SPECIAL OBSERVATIONS							
COLOR CODE		TRANS (m)		DIR.	SPEED OR FORCE	(mb)		DRY BULB	WET BULB														
						21	504	227	200	194	7	14											
MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_{θ}		$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C				
		STD	0000	1946	3624	2587		0021436		0000	15221												
122		OBS	0000	1946	36238	2587					15221												
		STD	0010	1946	3624	2587		0021472		0021	15223												
		STD	0020	1944	3624	2587		0021466		0043	15224												
122		OBS	0027	1943	36237	2587					15225												
		STD	0030	1942	3624	2588		0021450		0064	15225												
		STD	0050	1935	3624	2590		0021325		0107	15226												
122		OBS	0054	1933	36239	2590					15226												
		STD	0075	1828	3632	2623		0018238		0157	15201												
122		OBS	0081	1806	36344	2630					15196												
		STD	0100	1765	3640	2645		0016253		0200	15188												
122		OBS	0108	1750	36412	2649					15185												
		STD	0125	1731	3638	2652		0015691		0240	15182												
		STD	0150	1702	3633	2655		0015470		0279	15177												
122		OBS	0162	1687	36310	2657					15174												
		STD	0200	1637	3622	2662		0014957		0355	15164												
122		OBS	T0217	1615	36187	2664					15160												
		STD	0250	1578	3613	2668		0014458		0428	15153												
		STD	0300	1510	3602	2675		0013932		0499	15139												
122		OBS	0325	1470	35956	2679					15129												
		STD	0400	1321	3569	2690		0012702		0632	15090												
122		OBS	T0432	1259	35592	2695					15073												
		STD	0500	1112	3539	2708		0011153		0752	15031												
		STD	0600	0936	3519	2723		0009759		0856	14981												
122		OBS	T0656	0857	35128	2731					14960												
		STD	0700	0826	3515	2737		0008444		0947	14956												
		STD	0800	0749	3520	2753		0007029		1025	14944												
122		OBS	0869	0691	35240	2764					14933												
		STD	0900	0652	3519	2765		0005840		1089	14922												
		STD	1000	0547	3507	2770		0005374		1145	14895												
122		OBS	T1085	0481	35002	2772					14882												
		STD	1100	0477	3500	2772		0005065		1197	14883												
		STD	1200	0449	3498	2774		0004950		1247	14887												
		STD	1300	0428	3497	2775		0004848		1296	14895												
122		OBS	1360	0417	34969	2777					14901												
		STD	1400	0411	3497	2777		0004728		1344	14905												
		STD	1500	0399	3497	2778		0004669		1391	14917												
122		OBS	T1632	0392	34967	2779					14936												

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INDIC	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CITY CODE	IO. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT
311385	ML		3502 N	04802 W		113	58	11	21	121	1968	E19	012	2468	18	20	2	2		X1	4	7	0012
WATER		WIND		BARO- METER (mbars)	AIR TEMP. °C		VIL CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS														
COLOR CODE	TRANS. IN	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																	
			20	510	224	211	206	6	14														
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	$\frac{\sigma}{\rho}$ DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SIO ₄ -S μg - ml/l	pH	S CODE						
		STO	0000	1979	3626	2580	0022084	0000	15230														
121		OBS	0000	1979	36262	2580			15230														
		STO	0010	1976	3626	2580	0022060	0022	15231														
		STO	0020	1972	3626	2581	0021996	0044	15232														
		STO	0030	1967	3626	2583	0021908	0066	15232														
121		OBS	0031	1966	36258	2583			15232														
		STO	0050	1964	3626	2583	0021928	0110	15234														
121		OBS	0060	1946	36257	2588			15231														
		STO	0075	1874	3629	2609	0019563	0162	15214														
121		OBS	0091	1814	36317	2626			15200														
		STO	0100	1793	3633	2632	0017420	0208	15195														
121		OBS	0121	1748	36351	2645			15186														
		STO	0125	1740	3634	2646	0016191	0250	15184														
		STO	0150	1691	3629	2654	0015508	0290	15173														
121		OBS	0181	1640	36221	2661			15162														
		STO	0200	1620	3619	2663	0014794	0365	15158														
121		OBS	T0240	1574	36106	2667			15150														
		STO	0250	1562	3608	2668	0014470	0439	15148														
		STO	0300	1499	3597	2674	0014060	0510	15135														
121		OBS	0358	1419	35836	2681			15117														
		STO	0400	1358	3573	2686	0013156	0646	15103														
121		OBS	T0470	1245	35568	2696			15074														
		STO	0500	1166	3547	2704	0011566	0770	15051														
		STO	0600	0942	3522	2724	0009639	0876	14984														
		STO	0700	0777	3508	2739	0008199	0965	14937														
121		OBS	0708	0766	35076	2740			14934														
		STO	0800	0712	3512	2752	0007093	1041	14928														
		STO	0900	0652	3517	2764	0006016	1107	14922														
121		OBS	0949	0621	35189	2770			14918														
		STO	1000	0579	3514	2771	0005303	1163	14909														
		STO	1100	0509	3505	2773	0005125	1215	14896														
121		OBS	T1193	0460	34995	2774			14891														
		STO	1200	0458	3499	2774	0004995	1266	14891														
		STO	1300	0435	3498	2775	0004867	1315	14898														
		STO	1400	0415	3497	2777	0004773	1364	14907														
121		OBS	1499	0401	34965	2778			14917														
		STO	1500	0401	3496	2777	0004753	1411	14918														
		STO	1750	0384	3496	2779	0004745	1530	14953														
121		OBS	T1807	0384	34959	2779			14962														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	ALCH INCH	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10			CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT			
311385		ML	3503 N	04756 W		113	57	11	22	119	1968	E19	013		4206	16	27	3	3		X1	8	3	0013		
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mba)	DRY BULB	WET BULB														
									20	504	234	206	194	7	14											
MESSAGE TIME HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SIO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C									
		STD	0000	1941	3623	2587	0021378	0000	15220																	
119		ORS	0000	1941	36229	2587			15220																	
		STD	0010	1938	3623	2588	0021361	0021	15220																	
		STD	0020	1934	3622	2589	0021320	0043	15221																	
119		ORS	0026	1932	36221	2589			15221																	
		STD	0030	1931	3622	2589	0021280	0064	15221																	
		STD	0050	1923	3623	2591	0021153	0106	15223																	
119		ORS	0051	1923	36225	2592			15223																	
		STD	0075	1914	3622	2593	0021047	0159	15224																	
119		ORS	0077	1911	36218	2594			15224																	
		STD	0100	1848	3629	2616	0019023	0209	15211																	
119		ORS	0102	1842	36295	2618			15209																	
		STD	0125	1772	3630	2636	0017200	0255	15193																	
		STD	0150	1709	3631	2652	0015747	0296	15179																	
119		ORS	0153	1702	36315	2654			15177																	
		STD	0200	1625	3619	2662	0014906	0372	15160																	
119		ORS	T0204	1619	36178	2663			15159																	
		STD	0250	1584	3615	2669	0014445	0446	15155																	
		STD	0300	1527	3607	2675	0013936	0517	15145																	
119		ORS	0307	1517	36053	2676			15142																	
		STD	0400	1350	3572	2687	0013066	0652	15100																	
119		ORS	T0406	1339	35697	2687			15097																	
		STD	0500	1130	3541	2706	0011336	0774	15038																	
		STD	0600	0937	3519	2723	0009775	0879	14982																	
119		ORS	T0622	0899	35159	2726			14971																	
		STD	0700	0778	3511	2741	0007994	0968	14937																	
		STD	0800	0646	3506	2756	0006561	1041	14902																	
119		ORS	0832	0610	35047	2760			14893																	
		STD	0900	0541	3503	2767	0005462	1101	14876																	
119		ORS	0958	0493	35024	2772			14866																	
		STD	1000	0484	3502	2773	0004899	1153	14869																	
		STD	1100	0465	3501	2774	0004834	1201	14878																	
		STD	1200	0447	3500	2776	0004777	1250	14887																	
		STD	1300	0431	3499	2777	0004741	1297	14897																	
119		ORS	1309	0430	34986	2776			14898																	
		STD	1400	0417	3498	2777	0004726	1344	14908																	
		STD	1500	0404	3497	2778	0004720	1392	14919																	
119		ORS	T1571	0396	34961	2778			14927																	

REFERENCE		SHIP CODE	LATITUDE ° ' /10	LONGITUDE ° ' /10	DEPTH IN CM	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR./1:10		CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA		TYPE	AMT	
311	385	ML	3500 N	04800 W	113	58	11	24	124	1968	E19	015	4572	16	30	6	2		X1	8	2	0015
		WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DIR.	DRY BULB		WET BULB															
					35	515	227	206	161	7	14											
MESSNGR TIME HR 1:10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	Δ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SIO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S C					
		STD	0000	1968	3624	2581	0021940	0000	15227													
124		OBS	0000	1968	36244	2581			15227													
		STD	0010	1963	3624	2582	0021885	0022	15227													
		STD	0020	1958	3624	2583	0021802	0044	15228													
124		OBS	0027	1955	36238	2584			15228													
		STD	0030	1950	3624	2586	0021637	0065	15227													
		STD	0050	1901	3625	2599	0020443	0108	15217													
124		OBS	0053	1891	36248	2602			15214													
		STD	0075	1794	3635	2634	0017212	0155	15192													
124		OBS	0080	1778	36360	2638			15188													
		STD	0100	1746	3637	2647	0016027	0196	15182													
124		OBS	0106	1736	36372	2650			15180													
		STD	0125	1706	3632	2653	0015550	0236	15174													
		STD	0150	1669	3626	2657	0015225	0274	15166													
124		OBS	0159	1656	36240	2659			15163													
		STD	0200	1604	3615	2664	0014729	0349	15153													
124		OBS	T0215	1587	36123	2666			15150													
		STD	0250	1564	3610	2669	0014368	0422	15148													
		STD	0300	1519	3604	2675	0013981	0493	15142													
124		OBS	0320	1496	36000	2677			15137													
		STD	0400	1379	3576	2684	0013366	0629	15110													
124		OBS	T0425	1337	35690	2687			15099													
		STD	0500	1140	3542	2705	0011448	0753	15041													
		STD	0600	0934	3519	2723	0009725	0859	14981													
124		OBS	T0649	0857	35130	2731			14959													
		STD	0700	0824	3516	2738	0008361	0950	14956													
		STD	0800	0750	3521	2753	0006985	1026	14944													
124		OBS	0860	0701	35245	2763			14936													
		STD	0900	0652	3519	2765	0005840	1091	14922													
		STD	1000	0550	3508	2770	0005342	1146	14897													
124		OBS	T1074	0493	35024	2772			14885													
		STD	1100	0484	3502	2773	0005010	1198	14886													
		STD	1200	0454	3499	2774	0004942	1248	14890													
		STD	1300	0430	3498	2776	0004801	1297	14896													
124		OBS	1352	0420	34970	2776			14901													
		STD	1400	0412	3497	2777	0004734	1344	14905													
		STD	1500	0400	3497	2778	0004674	1391	14917													
124		OBS	T1636	0394	34968	2779			14938													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE INDEX	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER			
CTRY CODE	ID. NO.					10°	1°	MO	DAY		HR	T			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA	TYPE	AMT
311385	ML	3503 N	04805 W	113	58	11	25	122	1968	E19 016	2926	15	30	6	3		X1	8 2		0016				
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS										
		COLOR CODE	TRANS- (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB																	
					07	508	240	211	156	7	14													
MESSAGE TIME HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S °..	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		S.D. DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SIO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	DATE						
		STD	0000	1969	3627	2583	0021805		0000	15228														
122		OBS	0000	1969	36266	2583				15228														
		STD	0010	1967	3627	2583	0021773		0022	15229														
		STD	0020	1966	3627	2584	0021772		0044	15230														
122		OBS	0025		36272																			
		STD	0030	1964	3626	2583	0021841		0065	15231														
		STD	0050	1961	3624	2583	0021981		0109	15233														
122		OBS	0051	1961	36234	2582				15233														
		STD	0075	1922	3622	2591	0021259		0163	15226														
122		OBS	0075	1922	36218	2591				15226														
		STD	0100	1823	3632	2624	0018227		0213	15204														
122		OBS	0100	1823	36317	2624				15204														
		STD	0125	1772	3633	2638	0016982		0257	15193														
		STD	0150	1717	3635	2653	0015670		0297	15181														
122		OBS	0151	1715	36351	2653				15181														
		STD	0200	1599	3614	2664	0014683		0373	15151														
122		OBS	T0200	1599	36141	2664				15151														
		STD	0250	1575	3613	2669	0014392		0446	15152														
		STD	0300	1520	3605	2675	0013930		0517	15142														
122		OBS	0303	1516	36038	2675				15141														
		STD	0400	1317	3565	2688	0012914		0651	15088														
122		OBS	T0404	1310	35641	2689				15086														
		STD	0500	1196	3546	2697	0012205		0777	15061														
		STD	0600	1041	3530	2713	0010763		0891	15021														
122		OBS	T0612	1020	35285	2716				15015														
		STD	0700	0789	3521	2748	0007430		0982	14943														
		STD	0800	0610	3515	2768	0005390		1047	14889														
122		OBS	0809	0598																				
		STD	0900	0566	3509	2769	0005359		1100	14887														
		STD	1000	0531	3505	2770	0005303		1154	14889														
122		OBS	T1016	0526	35041	2770				14889														
		STD	1100	0493	3502	2772	0005130		1206	14889														
		STD	1200	0462	3500	2774	0004974		1256	14893														
122		OBS	1266	0445	34994	2775				14897														
		STD	1300	0438	34999	2776	0004804		1305	14900														
		STD	1400	0422	3500	2778	0004675		1353	14910														
		STD	1500	0415	3500	2779	0004669		1399	14924														
122		OBS	T1524	0414	34997	2779				14927														

TABLE XIV.—Observed and interpolated oceanographic data for stations taken by USCGC BOUTWELL at Ocean Station ECHO, 30 November–5 December 1968, prepared from NODC listing No. 13–8078

REFERENCE		SHIP	LATITUDE	LONGITUDE	MARS DEN	STATION TIME		YEAR	ORIGINATOR'S		DEPTH	MAX. DEPTH	WAVE				WEA-	CLOUD	NODC				
CTRY	ID.	CODE	'	'	INDIC	10"	1"	MO	DAY	HR	1/10	CRUISE	STATION	TO	OF	DIR.	HGT	PER	SEA	THER	TYPE	AMT	STATION
CODE	NO.											NO.	NUMBER	BOTTOM	SAMPLES					CODE			NUMBER
318078	OU		3459 N	04806 W		113	48	11	30	060	1968	E20	001	4517	15	04	2	2		X2	0	6	0001
						WATER		WIND		BARO-		AIR TEMP. °C		VIS.		NO. OBS.		SPECIAL					
						COLOR	TRANS.	DIR.	SPEED	METER		DRY		WET		OBS.		OBSERVATIONS					
						CODE	(m)		OR	(mba)		BULB		BULB		DEPTHS							
						DT	SD	24	S13	247		161		150		7		25					
MESSAGE	CAST	CARD	DEPTH	T	S	SIGMA-T	SPECIFIC VOLUME		Δ Δ		SOUND	O ₂	PO ₄ -P	TOTAL-P	NO ₂ -N	NO ₃ -N	SiO ₄ -Si	pH					
TIME	NO.	TYPE	(m)	°C	‰		ANOMALY-σ _t		DYN. M.		VELOCITY	ml/l	μg-at/l	μg-at/l	μg-at/l	μg-at/l	μg-at/l						
OF									X 10 ³														
HR	1/10																						
		STD	0000	1982	3635	2586	0021522		0000		15232												
	060	OBS	0000	1982	36350	2586					15232												
		STD	0010	1917	3635	2603	0019945		0021		15216												
		OBS	0010	1917	36350	2603					15216												
		STD	0020	1896	3635	2608	0019503		0040		15212												
	006	OBS	0020	1896	36345	2608					15212												
		STD	0030	1863	3635	2616	0018738		0060		15204												
		OBS	0030	1863	36345	2616					15204												
		STD	0050	1766	3634	2640	0016540		0095		15179												
		OBS	0050	1766	36340	2640					15179												
		STD	0075	1749	3634	2644	0016230		0136		15178												
		OBS	0075	1749	36340	2644					15178												
		STD	0100	1724	3634	2650	0015735		0176		15175												
		OBS	0100	1724	36340	2650					15175												
		STD	0125	1712	3634	2653	0015579		0215		15176												
		OBS	0125	1712	36335	2653					15176												
		STD	0150	1675	3634	2662	0014816		0253		15169												
		OBS	0150	1675	36335	2662					15169												
		STD	0200	1623	3633	2673	0013844		0325		15161												
		OBS	0200	1623	36330	2673					15161												
		STD	0250	1565	3628	2683	0013083		0392		15151												
		STD	0300	1501	3618	2689	0012612		0456		15138												
		OBS	0300	1501	36175	2689					15138												
		STD	0400	1356	3584	2695	0012315		0581		15103												
		OBS	0400	1356	35840	2695					15103												
		STD	0500	1175	3566	2717	0010349		0694		15056												
		OBS	0500	1175	35660	2717					15056												
		STD	0600	0976	3542	2734	0008789		0790		14999												
		OBS	0600	0976	35415	2734					14999												
		STD	0700	0766	3524	2753	0006855		0868		14934												
		OBS	0700	0766	35240	2753					14934												
		OBS	0710	0761	35240	2754					14934												
		OBS	0733	0760	35240	2754					14938												
		STD	0800	0597	3508	2764	0005726		0931		14882												
		OBS	0800	0597	35080	2764					14882												
		STD	0900	0518	3508	2773	0004824		0984		14867												
		OBS	0900	0518	35075	2773					14867												
		STD	1000	0491	3508	2777	0004586		1031		14873												
		OBS	1000	0491	35075	2777					14873												
		STD	1100	0465	3507	2779	0004393		1076		14879												
		OBS	1100	0465	35070	2779					14879												
		STD	1200	0447	3504	2779	0004483		1120		14887												
		OBS	1200	0447	35040	2779					14887												
		STD	1300	0438	3504	2780	0004466		1165		14900												
		OBS	1300	0438	35040	2780					14900												
		STD	1400	0414	3504	2782	0004284		1208		14907												
		OBS	1400	0414	35035	2782					14907												
		STD	1500	0401			0004607		1253		14918												
		OBS	1500	0401	3498P	2779P					14918												

REFERENCE		SHIP CODE	LATITUDE ° 1' 10"	LONGITUDE ° 1' 10"	DATE INDICATOR	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLING	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.						10"	1"	MO		DAY	HR.1/10			CRUISE NO.	STATION NUMBER	DIR	HGT		PER	SEA		TYPE
318078	OU		3510 N	04800 W		113	58 12 01	060	1968	E20	002		1737	14	22	4	2		X2	0	6		0002
		WATER		WIND		BARO- METER (mba)		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB														
		DT	SU	23	S29	152		195	165	7	36												
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S °...	SIGMA-T		SPECIFIC VOLUME ANGMALT-x10 ³	Σ Δ D DYN. M x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -S μg - ml/l	pH	SCC					
		STD	0000	1971	3633	2587		0021384	0000	15229													
060		OBS	0000	1971	36331	2587				15229													
		STD	0010	1971	3634	2587		0021384	0021	15231													
		OBS	0010	1971	36336	2587				15231													
		STD	0020	1971	3634	2587		0021421	0043	15232													
006		OBS	0020	1971	36336	2587				15232													
		STD	0030	1971	3633	2587		0021516	0064	15234													
		OBS	0030	1971	36328	2587				15234													
		STD	0050	1965	3633	2588		0021439	0107	15236													
		OBS	0050	1965	36328	2588				15236													
		STD	0075	1961	3637	2592		0021155	0160	15239													
		OBS	0075	1961	36366	2592				15239													
		STD	0100	1777	3639	2641		0016622	0208	15191													
		OBS	0100	1777	36388	2641				15191													
		STD	0125	1743	3639	2649		0015912	0248	15185													
		OBS	0125	1743	36388	2649				15185													
		STD	0150	1709	3635	2654		0015514	0288	15179													
		OBS	0150	1709	36346	2654				15179													
		STD	0200	1647	3625	2662		0014949	0364	15167													
		OBS	0200	1647	36252	2662				15167													
		STD	0250	1589	3617	2669		0014410	0437	15157													
		OBS	0250	1589	36170	2669				15157													
		STD	0300	1527	3602	2671		0014328	0509	15144													
		OBS	0300	1527	36016	2671				15144													
		STD	0400	1397	3579	2682		0013510	0648	15116													
		OBS	0400	1397	35791	2682				15116													
		STD	0500	1232	3560	2701		0011903	0775	15075													
		OBS	0500	1232	35596	2701				15075													
		STD	0600	1019	3536	2722		0009966	0885	15014													
		OBS	0600	1019	35356	2722				15014													
		STD	0700	0777	3514	2744		0007780	0973	14937													
		OBS	0700	0777	35137	2744				14937													
		STD	0800	0709	3519	2757		0006563	1045	14928													
		OBS	0800	0709	35185	2757				14928													
		STD	0900	0630	3515	2765		0005830	1107	14913													
		OBS	0900	0630	35148	2765				14913													
		OBS	0925	0592	35126	2768				14902													
		OBS	0970	0587	35146	2771				14908													
		OBS	0980	0589	35147	2770				14910													
		OBS	0990	0594	35155	2770				14914													
		STD	1000	0590	3517	2772		0005275	1163	14914													
		OBS	1000	0590	35165	2772				14914													
		OBS	1025	0606	35194	2772				14925													
		OBS	1050	0605	35188	2772				14929													
		OBS	1055	0592	35175	2772				14924													
		OBS	1080	0559	35136	2773				14914													
		STD	1100	0559	3514	2773		0005182	1215	14918													
		OBS	1100	0559	35136	2773				14918													
		OBS	1114	0542	35126	2775				14913													
		OBS	1131	0537	35106	2774				14914													
		OBS	1175	0517	35089	2775				14913													
		STD	1200	0519	3509	2774		0005092	1266	14918													
		OBS	1200	0519	35089	2774				14918													
		OBS	1218	0512	35086	2775				14918													
		OBS	1263	0502	35056	2774				14921													
		STD	1300	0487	3506	2776		0005015	1317	14921													
		OBS	1300	0487	35055	2776				14921													
		STD	1400	0429	3500	2778		0004739	1366	14913													
		OBS	1400	0429	35000	2778				14913													

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REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MM/YY	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER				
CTRY CODE	IO. NO.					10°	1°	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA		TYPE	AMT		
31B078		OU	3458 N	04754 W		113	47	12	01	180	1968	E20	004		4480	15	35	4	2		X6	0	6		0004
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB		WET BULB																	
		DT	SO	35	S15	176	161	156	6	30															
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DTN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₂ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SiO ₄ -Si $\mu g \cdot dl/l$	pH	3 OUT								
		STD	0000	1944																					
	180	OBS	0000	1944																					
		STD	0010	1944																					
		OBS	0010	1944																					
		STD	0020	1924																					
	006	OBS	0020	1924																					
		STD	0030	1839																					
		OBS	0030	1839																					
		STD	0050	1779																					
		OBS	0050	1779																					
		STD	0075	1724																					
		OBS	0075	1724																					
		STD	0100	1690																					
		OBS	0100	1690																					
		STD	0125	1649																					
		OBS	0125	1649																					
		STD	0150	1639																					
		OBS	0150	1639																					
		STD	0200	1545																					
		OBS	0200	1545																					
		OBS	0220	1543																					
		STD	0250	1537																					
		OBS	0250	1537																					
		STD	0300	1426																					
		OBS	0300	1426																					
		STD	0400	1259																					
		OBS	0400	1259																					
		STD	0500	1023																					
		OBS	0500	1023																					
		STD	0600	0840																					
		OBS	0600	0840																					
		OBS	0640	0749																					
		OBS	0650	0733																					
		STD	0700	0689																					
		OBS	0700	0689																					
		OBS	0710	0694																					
		OBS	0715	0719																					
		OBS	0730	0716																					
		STD	0800	0649																					
		OBS	0800	0649																					
		STD	0900	0622																					
		OBS	0900	0622																					
		STD	1000	0572																					
		OBS	1000	0572																					
		STD	1100	0500																					
		OBS	1100	0500																					
		STD	1200	0458																					
		OBS	1200	0458																					
		STD	1300	0432																					
		OBS	1300	0432																					
		STD	1400	0412																					
		OBS	1400	0412																					
		STD	1500	0399																					
		OBS	1500	0399																					

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY HR.1/10	MARSOEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE
31B078	OU		3502 N	04803 W	113	58	12	02	000	1968	E20	005	3338	15	02	4	2		X2	0	6	0005
WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS													
COLOR CODE	TRANS. mm	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																
0T	SD	27	S03	213	167	134	7	41														
MESSENGER TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C					
		STO	0000	1949																		
000		OBS	0000	1949																		
		STO	0010	1949																		
		OBS	0010	1949																		
		STO	0020	1949																		
006		OBS	0020	1949																		
		STO	0030	1949																		
		OBS	0030	1949																		
		STO	0050	1949																		
		OBS	0050	1949																		
		OBS	0060	1949																		
		OBS	0065	1949																		
		STO	0075	1947																		
		OBS	0075	1947																		
		OBS	0080	1909																		
		OBS	0085	1849																		
		STO	0100	1806																		
		OBS	0100	1806																		
		OBS	0105	1799																		
		STO	0125	1754																		
		OBS	0125	1754																		
		STO	0150	1723																		
		OBS	0150	1723																		
		STO	0200	1608																		
		OBS	0200	1608																		
		STO	0250	1585																		
		OBS	0250	1585																		
		STO	0300	1518																		
		OBS	0300	1518																		
		STO	0400	1420																		
		OBS	0400	1420																		
		STO	0500	1234																		
		OBS	0500	1234																		
		STO	0600	1045																		
		OBS	0600	1045																		
		OBS	0638	0969																		
		OBS	0644	0922																		
		OBS	0659	0889																		
		STO	0700	0844																		
		OBS	0700	0844																		
		OBS	0715	0816																		
		OBS	0740	0779																		
		OBS	0760	0764																		
		OBS	0795	0801																		
		STO	0800	0779																		
		OBS	0800	0779																		
		STO	0900	0672																		
		OBS	0900	0672																		
		OBS	0960	0642																		
		OBS	0980	0630																		
		STO	1000	0626																		
		OBS	1000	0626																		
		OBS	1045	0594																		
		OBS	1080	0598																		
		STO	1100	0602																		
		OBS	1100	0602																		
		OBS	1130	0599																		
		STO	1200	0475																		
		OBS	1200	0475																		
		STO	1300	0437																		
		OBS	1300	0437																		
		STO	1400	0431																		
		OBS	1400	0431																		
		OBS	1460	0431																		

REFERENCE		SHIP CODE	LATITUDE ° ' 10	LONGITUDE ° ' 10	DATE INDEX	MARS DEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	WAVE DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.						MO	DAY	HR 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT PER	SEA		TYPE	AMT			
318078	OU		3456 N	04758 W		113	47	12	02	060	1968	E20	006	4938	15	33	1	2		X1	0 6		0006
		WATER		WIND		BARO- METER		AIR TEMP °C		VLS CODE		SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. (m)	DIR	SPEED OR FORCE	DRY BULB	WET BULB	NO. OBS. DEPTHS																	
OT	SD	04	S13	247	156	122	7	32															
MESSAGE TIME OF HR 1/10	CASST NO.	CARD TYPE	DEPTH (m)	T °C	S °C	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml	PO ₄ -P μg - ml	TOTAL-N μg - ml	NO ₂ -N μg - ml	NO ₃ -N μg - ml	SiO ₄ -S μg - ml	pH							
		STD	0000	1962	3627	2585	0021602	0000	15226														
	060	OBS	0000	1962	36270	2585			15226														
		STD	0010	1962	3627	2585	0021638	0022	15227														
		OBS	0010	1962	36270	2585			15227														
		STD	0020	1962	3627	2585	0021674	0043	15229														
	006	OBS	0020	1962	36270	2585			15229														
		STD	0030	1962	3627	2585	0021711	0065	15231														
		OBS	0030	1962	36270	2585			15231														
		OBS	0040	1946	36270	2589			15228														
		STD	0050	1871	3630	2611	0019336	0106	15209														
		OBS	0050	1871	36299	2611			15209														
		STD	0075	1781	3638	2639	0016681	0151	15188														
		OBS	0075	1781	36381	2639			15188														
		STD	0100	1747	3643	2651	0015622	0191	15183														
		OBS	0100	1747	36429	2651			15183														
		OBS	0120	1728	36429	2656			15181														
		STD	0125	1724	3642	2657	0015210	0230	15180														
		STD	0150	1701	3640	2660	0014946	0268	15177														
		OBS	0150	1701	36399	2660			15177														
		STD	0200	1631	3629	2668	0014321	0341	15163														
		OBS	0200	1631	36289	2668			15163														
		STD	0250	1546	3617	2679	0013474	0410	15144														
		OBS	0250	1546	36169	2679			15144														
		OBS	0260	1536	36155	2680			15142														
		STD	0300	1525	3615	2682	0013311	0477	15145														
		OBS	0300	1525	36150	2682			15145														
		OBS	0350	1431	35969	2689			15121														
		STD	0400	1331	3578	2695	0012254	0605	15094														
		OBS	0400	1331	35779	2695			15094														
		STD	0500	1136	3554	2715	0010505	0719	15041														
		OBS	0500	1136	35539	2715			15041														
		STD	0600	0936	3528	2730	0009107	0817	14983														
		OBS	0600	0936	35279	2730			14983														
		STD	0700	0746	3517	2751	0007050	0898	14926														
		OBS	0700	0746	35172	2751			14926														
		OBS	0750	0689	35138	2756			14911														
		OBS	0765	0667	35148	2760			14905														
		OBS	0780	0653	35139	2761			14902														
		OBS	0790	0697	35235	2763			14922														
		STD	0800	0690	3524	2764	0005884	0962	14921														
		OBS	0800	0690	35239	2764			14921														
		OBS	0810	0679	35238	2766			14919														
		STD	0900	0646	3523	2770	0005437	1019	14921														
		OBS	0900	0646																			
		STD	1000	0605	3523	2775	0005026	1071	14921														
		OBS	1000	0605	35228	2775			14921														
		STD	1100	0538	3516	2778	0004721	1120	14910														
		OBS	1100	0538	35159	2778			14910														
		STD	1200	0486	3509	2778	0004642	1167	14904														
		OBS	1200	0486	35089	2778			14904														
		STD	1300	0439	3503	2779	0004553	1213	14901														
		OBS	1300	0439	35030	2779			14901														
		STD	1400	0415	3500	2779	0004575	1258	14907														
		OBS	1400	0415	34997	2779			14907														
		STD	1500	0410	3498	2778	0004705	1305	14922														
		OBS	1500	0410	34983	2778			14922														

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	CHIT INDIC	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT		
318078	OU		3452 N	04753 W		113	47	12	02	120	1968	E20	007	4663	15	35	3	4		X1	0	6	0007
						WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
						DT	SD	04	S05		260	162				123	7	29					
MESSING TIME OF HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T		SPECIFIC VOLUME ANOMALY-107		Σ Δ D DYN. M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	Si O ₄ -Si μg - ml/l	pH	S C			
		STD	0000	1944	3631	2593		0020836		0000		15221											
120		OBS	0000	1944	36314	2593						15221											
		STD	0010	1944	3631	2593		0020872		0021		15223											
		OBS	0010	1944	36314	2593						15223											
		STD	0020	1944	3631	2593		0020908		0042		15225											
006		OBS	0020	1944	36314	2593						15225											
		STD	0030	1944	3631	2593		0020945		0063		15226											
		OBS	0030	1944	36314	2593						15226											
		STD	0050	1943	3631	2593		0020993		0105		15229											
		OBS	0050	1943	36314	2593						15229											
		STD	0075	1799	3635	2632		0017345		0153		15193											
		OBS	0075	1799	36348	2632						15193											
		STD	0100	1754	3641	2649		0015894		0194		15185											
		OBS	0100	1754	36414	2649						15185											
		STD	0125	1714	3637	2655		0015357		0233		15177											
		OBS	0125	1714	36372	2655						15177											
		STD	0150	1684	3634	2659		0015014		0271		15171											
		OBS	0150	1684	36336	2659						15171											
		STD	0200	1629	3625	2666		0014538		0345		15162											
		OBS	0200	1629	36253	2666						15162											
		STD	0250	1539	3612	2677		0013656		0415		15141											
		OBS	0250	1539	36123	2677						15141											
		STD	0300	1484	3603	2682		0013274		0483		15131											
		OBS	0300	1484	36034	2682						15131											
		STD	0400	1329	3578	2696		0012178		0610		15094											
		OBS	0400	1329	35784	2696						15094											
		STD	0500	1169	3561	2714		0010586		0724		15054											
		OBS	0500	1169	35612	2714						15054											
		STD	0600	0899	3523	2732		0008823		0821		14968											
		OBS	0600	0899	35234	2732						14968											
		OBS	0620	0866	35219	2736						14959											
		OBS	0680	0784	35181	2746						14937											
		OBS	0685	0806	35232	2747						14947											
		STD	0700	0800	3523	2748		0007425		0902		14947											
		OBS	0700	0800	35234	2748						14947											
		OBS	0720	0784	35272	2753						14945											
		OBS	0735	0774	35272	2755						14944											
		STD	0800	0705	3524	2762		0006136		0970		14927											
		OBS	0800	0705	35235	2762						14927											
		STD	0900	0645	3522	2769		0005525		1028		14920											
		OBS	0900	0645	35219	2769						14920											
		STD	1000	0588	3520	2774		0005012		1081		14914											
		OBS	1000	0588	35197	2774						14914											
		STD	1100	0528	3515	2778		0004649		1129		14905											
		OBS	1100	0528	35150	2778						14905											
		STD	1200	0460	3504	2777		0004647		1176		14893											
		OBS	1200	0460	35041	2777						14893											
		STD	1300	0422	3499	2778		0004630		1222		14893											
		OBS	1300	0422	34989	2778						14893											
		STD	1400	0409	3498	2778		0004628		1268		14904											
		OBS	1400	0409	34979	2778						14904											
		STD	1500	0397	3496	2778		0004671		1315		14916											
		OBS	1500	0397	34964	2778						14916											

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARSDEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CRUISE CODE	ID. NO.						10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA	
318078	OU		3456 N	04802 W		113 48	12 02	180	1968	E20	008		4663	15	04	2	2		X1	0	6	0008
		WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB																	
	DT	SD	06	505	260	217	172	7	31													
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S °E	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₂ -N $\mu\text{g} \cdot \text{dl}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{dl}^{-1}$	SIO ₄ -Si $\mu\text{g} \cdot \text{dl}^{-1}$	pH	S C					
		STD	0000	1945																		
180		OBS	0000	1945																		
		STD	0010	1945																		
		OBS	0010	1945																		
		STD	0020	1945																		
006		OBS	0020	1945																		
		STD	0030	1946																		
		OBS	0030	1946																		
		STD	0050	1945																		
		OBS	0050	1945																		
		OBS	0060	1942																		
		STD	0075	1799																		
		OBS	0075	1799																		
		STD	0100	1748																		
		OBS	0100	1748																		
		STD	0125	1715																		
		OBS	0125	1715																		
		OBS	0135	1704																		
		STD	0150	1676																		
		OBS	0150	1676																		
		STD	0200	1621																		
		OBS	0200	1621																		
		STD	0250	1554																		
		OBS	0250	1554																		
		STD	0300	1488																		
		OBS	0300	1488																		
		STD	0400	1361																		
		OBS	0400	1361																		
		OBS	0420	1331																		
		OBS	0460	1274																		
		STD	0500	1137																		
		OBS	0500	1137																		
		STD	0600	0885																		
		OBS	0600	0885																		
		OBS	0640	0819																		
		OBS	0660	0826																		
		OBS	0670	0816																		
		STD	0700	0823																		
		OBS	0700	0823																		
		STD	0800	0703																		
		OBS	0800	0703																		
		STD	0900	0643																		
		OBS	0900	0643																		
		STD	1000	0601																		
		OBS	1000	0601																		
		STD	1100	0553																		
		OBS	1100	0553																		
		STD	1200	0462																		
		OBS	1200	0462																		
		STD	1300	0429																		
		OBS	1300	0429																		
		STD	1400	0411																		
		OBS	1400	0411																		
		STD	1500	0399																		
		OBS	1500	0399																		

REFERENCE		SHIP CODE	LATITUDE ° ' /10	LONGITUDE ° ' /10	DEPTH METER	MARSDEN SQUARE		STATION TIME IGMT		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.					10°	1°	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TPPI	
31B078	OU		3502 N	04802 W	113	58	12	03	000	1968	E20	009	3749	15	35	2	2		X1	0	6	0009
WATER		WIND		SARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS													
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																
DT	SD	12	S03	275	157	122	7	40														
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DTN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{dl/l}$	TOTAL-P $\mu\text{g} \cdot \text{dl/l}$	NO ₂ -N $\mu\text{g} \cdot \text{dl/l}$	NO ₃ -N $\mu\text{g} \cdot \text{dl/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{dl/l}$	pH	S C C					
		STD	0000	1942																		
	000	OBS	0000	1942																		
		STD	0010	1942																		
		OBS	0010	1942																		
		STD	0020	1943																		
	006	OBS	0020	1943																		
		STD	0030	1944																		
		OBS	0030	1944																		
		STD	0050	1944																		
		OBS	0050	1944																		
		STD	0075	1936																		
		OBS	0075	1936																		
		OBS	0085	1908																		
		STD	0100	1828																		
		OBS	0100	1828																		
		OBS	0120	1781																		
		STD	0125	1778																		
		OBS	0125	1778																		
		STD	0150	1758																		
		OBS	0150	1758																		
		STD	0200	1671																		
		OBS	0200	1671																		
		STD	0250	1564																		
		OBS	0250	1564																		
		OBS	0295	1533																		
		STD	0300	1533																		
		OBS	0300	1533																		
		OBS	0326	1596																		
		STD	0400	1369																		
		OBS	0400	1369																		
		STD	0500	1196																		
		OBS	0500	1196																		
		STD	0600	1000																		
		OBS	0600	1000																		
		OBS	0675	0811																		
		OBS	0685	0806																		
		STD	0700	0788																		
		OBS	0700	0788																		
		OBS	0705	0781																		
		OBS	0790	0712																		
		STD	0800	0716																		
		OBS	0800	0716																		
		OBS	0880	0642																		
		STD	0900	0638																		
		OBS	0900	0638																		
		STD	1000	0618																		
		OBS	1000	0618																		
		OBS	1040	0611																		
		OBS	1060	0608																		
		STD	1100	0584																		
		OBS	1100	0584																		
		OBS	1140	0518																		
		OBS	1160	0529																		
		OBS	1180	0509																		
		STD	1200	0504																		
		OBS	1200	0504																		
		OBS	1240	0504																		
		OBS	1250	0493																		
		STD	1300	0429																		
		OBS	1300	0429																		
		STD	1400	0418																		
		OBS	1400	0418																		
		STD	1500	0412																		
		OBS	1500	0412																		

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	WIND DIRECTION	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE		AMT
31B078	OU		3502 N	04804 W		113	58	12	03	060	1968	E20	010	2377	15	28	1	2		X1	0	6	0010

WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB			
DT	SD	18	508	261	156	128	7	31	

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \rho$ DTN. ML. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₂ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₂ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SIO ₄ -Si $\mu g \cdot dl/l$	pH	S C C
		STD	0000	1940													
060		OBS	0000	1940													
		STD	0010	1941													
		OBS	0010	1941													
006		STD	0020	1941													
		OBS	0020	1941													
		STD	0030	1941													
		OBS	0030	1941													
		STD	0050	1941													
		OBS	0050	1941													
		STD	0075	1796													
		OBS	0075	1796													
		STD	0100	1762													
		OBS	0100	1762													
		STD	0125	1738													
		OBS	0125	1738													
		STD	0150	1672													
		OBS	0150	1672													
		STD	0200	1582													
		OBS	0200	1582													
		STD	0250	1539													
		OBS	0250	1539													
		OBS	0280	1543													
		STD	0300	1518													
		OBS	0300	1518													
		STD	0400	1327													
		OBS	0400	1327													
		STD	0500	1159													
		OBS	0500	1159													
		STD	0600	0992													
		OBS	0600	0992													
		OBS	0670	0884													
		OBS	0690	0808													
		STD	0700	0788													
		OBS	0700	0788													
		OBS	0730	0766													
		OBS	0750	0776													
		STD	0800	0729													
		OBS	0800	0729													
		STD	0900	0626													
		OBS	0900	0626													
		OBS	0953	0557													
		STD	1000	0580													
		OBS	1000	0580													
		OBS	1040	0587													
		STD	1100	0514													
		OBS	1100	0514													
		STD	1200	0476													
		OBS	1200	0476													
		STD	1300	0453													
		OBS	1300	0453													
		STD	1400	0422													
		OBS	1400	0422													
		STD	1500	0408													
		OBS	1500	0408													

REFERENCE		SHIP CODE	LATITUDE ° ' 10"	LONGITUDE ° ' 10"	TIME ZONE	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CRUISE CODE	ID. NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER	SEA	TYPE	
318078	OU		3500 N	04800 W		113	58	12	03	120	1968	E20 011	4435	15	34	2	2		X2	0 16	0011
WATER		WIND		SARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS												
COLOR CODE	TRANS. IMI	DIR.	SPEED OR FORCE		DRY BULB	WET BULB															
DT	SD	19	S15	255	194	161	7	35													
MESSNGR TIME HR 1/10	CASE NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Δ ρ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	TOTAL-P μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SiO ₄ -S μg - ml/l	pH	S C C				
		STD	0000	1951																	
120		OBS	0000	1951																	
		STD	0010	1947																	
		OBS	0010	1947																	
		STD	0020	1947																	
006		OBS	0020	1947																	
		STD	0030	1946																	
		OBS	0030	1946																	
		STD	0050	1944																	
		OBS	0050	1944																	
		STD	0075	1936																	
		OBS	0075	1936																	
		STD	0100	1943																	
		OBS	0100	1943																	
		STD	0125	1769																	
		OBS	0125	1769																	
		OBS	0140	1758																	
		STD	0150	1754																	
		OBS	0150	1754																	
		OBS	0165	1724																	
		STD	0200	1676																	
		OBS	0200	1676																	
		STD	0250	1609																	
		OBS	0250	1609																	
		STD	0300	1459																	
		OBS	0300	1459																	
		STD	0400	1384																	
		OBS	0400	1384																	
		STD	0500	1251																	
		OBS	0500	1251																	
		STD	0600	1044																	
		OBS	0600	1044																	
		OBS	0670	0874																	
		STD	0700	0839																	
		OBS	0700	0839																	
		STD	0800	0713																	
		OBS	0800	0713																	
		STD	0900	0636																	
		OBS	0900	0636																	
		OBS	0970	0588																	
		STD	1000	0593																	
		OBS	1000	0593																	
		OBS	1011	0587																	
		OBS	1021	0603																	
		OBS	1035	0589																	
		OBS	1050	0600																	
		STD	1100	0580																	
		OBS	1100	0580																	
		STD	1200	0519																	
		OBS	1200	0519																	
		OBS	1240	0506																	
		OBS	1283	0438																	
		STD	1300	0438																	
		OBS	1300	0438																	
		OBS	1340	0458																	
		STD	1400	0452																	
		OBS	1400	0452																	
		OBS	1470	0441																	

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DRIFT INDICATOR	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER				
CTRY CODE	IO. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA		TYPE	AMT		
31B078		OU	3511 N	04800 W		113	58	12	03	180	1968	E20	012		3200	15	21	2	2		X1	0	6		0012
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mba)	DRY BULB	WET BULB													
						DT	SD	12	S20	230	200	172	7											32	
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ O DYN. M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₃ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -S μg - dl/l	pH	S C/C					
		STD	0000	1961																					
180		OBS	0000	1961																					
		STD	0010	1957																					
		OBS	0010	1957																					
		STD	0020	1956																					
006		OBS	0020	1956																					
		STD	0030	1956																					
		OBS	0030	1956																					
		STD	0050	1953																					
		OBS	0050	1953																					
		OBS	0070	1894																					
		STD	0075	1814																					
		OBS	0075	1814																					
		STD	0100	1756																					
		OBS	0100	1756																					
		STD	0125	1719																					
		OBS	0125	1719																					
		STD	0150	1679																					
		OBS	0150	1679																					
		STD	0200	1601																					
		OBS	0200	1601																					
		STD	0250	1544																					
		OBS	0250	1544																					
		STD	0300	1459																					
		OBS	0300	1459																					
		STD	0400	1319																					
		OBS	0400	1319																					
		STD	0500	1144																					
		OBS	0500	1144																					
		STD	0600	0969																					
		OBS	0600	0969																					
		STD	0700	0829																					
		OBS	0700	0829																					
		STD	0800	0711																					
		OBS	0800	0711																					
		STD	0900	0638																					
		OBS	0900	0638																					
		OBS	0950	0619																					
		STD	1000	0588																					
		OBS	1000	0588																					
		OBS	1020	0596																					
		STD	1100	0512																					
		OBS	1100	0512																					
		OBS	1120	0514																					
		OBS	1130	0542																					
		STD	1200	0500																					
		OBS	1200	0500																					
		OBS	1275	0447																					
		STD	1300	0466																					
		OBS	1300	0466																					
		OBS	1315	0466																					
		OBS	1325	0443																					
		STD	1400	0425																					
		OBS	1400	0425																					
		STD	1500	0415																					
		OBS	1500	0415																					

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	PORT INDICATOR	MARCOEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER			
CITY CODE	IO. NO.						10°	1°	MO		DAY	HR, 1/10			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA	TYPE	AMT
31B078	OU		3458 N	04803 W		113	48	12	04	000	1968	E20	013	4755	15	21	2	2		X2	0	6	0013	
		WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS													
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																
		DT	SD	22	513	230	206	178	7	26														
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SiO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S C							
		STD	0000	1942																				
000		OBS	0000	1942																				
		STD	0010	1942																				
		OBS	0010	1942																				
		STD	0020	1942																				
006		OBS	0020	1942																				
		STD	0030	1942																				
		OBS	0030	1942																				
		STD	0050	1941																				
		OBS	0050	1941																				
		STD	0075	1877																				
		OBS	0075	1877																				
		STD	0100	1782																				
		OBS	0100	1782																				
		STD	0125	1745																				
		OBS	0125	1745																				
		STD	0150	1692																				
		OBS	0150	1692																				
		STD	0200	1624																				
		OBS	0200	1624																				
		STD	0250	1564																				
		OBS	0250	1564																				
		STD	0300	1529																				
		OBS	0300	1529																				
		STD	0400	1342																				
		OBS	0400	1342																				
		STD	0500	1152																				
		OBS	0500	1152																				
		STD	0600	1019																				
		OBS	0600	1019																				
		STD	0700	0792																				
		OBS	0700	0792																				
		STD	0800	0705																				
		OBS	0800	0705																				
		STD	0900	0635																				
		OBS	0900	0635																				
		STD	1000	0599																				
		OBS	1000	0599																				
		STD	1100	0534																				
		OBS	1100	0534																				
		STD	1200	0460																				
		OBS	1200	0460																				
		OBS	1250	0441																				
		OBS	1260	0441																				
		STD	1300	0423																				
		OBS	1300	0423																				
		STD	1400	0410																				
		OBS	1400	0410																				
		STD	1500	0396																				
		OBS	1500	0396																				

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TYPE		AMT
31B078	OU		3451 N	04808 W	113 48	12	04	060	1968	E20	014		4846	15	24	1	2		X1	0	6		0014
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. UNIT	DIR.	SPEED OF FORCE	DRY BULB	WET BULB																		
DT	SD	23	S20	220	194	172	7	29															
MESSENGER TIME OF HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	$\Sigma \Delta D$ DTN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ml/l	TOTAL-P µg - ml/l	NO ₂ -N µg - ml/l	NO ₃ -N µg - ml/l	SiO ₄ -Si µg - ml/l	PH	S CC						
		STD	0000	1947																			
060		OBS	0000	1947																			
		STD	0010	1946																			
		OBS	0010	1946																			
		STD	0020	1945																			
006		OBS	0020	1945																			
		STD	0030	1944																			
		OBS	0030	1944																			
		STD	0050	1940																			
		OBS	0050	1940																			
		OBS	0060	1938																			
		STD	0075	1814																			
		OBS	0075	1814																			
		STD	0100	1744																			
		OBS	0100	1744																			
		OBS	0110	1730																			
		STD	0125	1726																			
		OBS	0125	1726																			
		STD	0150	1706																			
		OBS	0150	1706																			
		STD	0200	1622																			
		OBS	0200	1622																			
		STD	0250	1542																			
		OBS	0250	1542																			
		STD	0300	1511																			
		OBS	0300	1511																			
		STD	0400	1334																			
		OBS	0400	1334																			
		STD	0500	1129																			
		OBS	0500	1129																			
		STD	0600	0924																			
		OBS	0600	0924																			
		STD	0700	0716																			
		OBS	0700	0716																			
		OBS	0750	0651																			
		STD	0800	0629																			
		OBS	0800	0629																			
		OBS	0810	0621																			
		OBS	0820	0662																			
		STD	0900	0630																			
		OBS	0900	0630																			
		STD	1000	0602																			
		OBS	1000	0602																			
		STD	1100	0538																			
		OBS	1100	0538																			
		STD	1200	0488																			
		OBS	1200	0488																			
		STD	1300	0432																			
		OBS	1300	0432																			
		STD	1400	0410																			
		OBS	1400	0410																			
		STD	1500	0416																			
		OBS	1500	0416																			

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY HR 1/10	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER	
CTRY CODE	ID. NO.								CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
31B078	OU		3455 N	04803 W	113 48 12 04 120	1968	E20	015			4114	15	15	1	2		X1	0 6		0015
WATER				WIND				BARO- METER (mbars)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
COLOR CODE	TRANS. M	DIR.	SPEED OR FORCE	DIR.	WIND OR FORCE	BARO- METER (mbars)	DIR.	WET BULB	WET BULB											
DT	SD	25	S13	237	200	200	7	37												
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ OBS. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g \cdot dl/l$	TOTAL-P $\mu g \cdot dl/l$	NO ₂ -N $\mu g \cdot dl/l$	NO ₃ -N $\mu g \cdot dl/l$	SIO ₄ -Si $\mu g \cdot dl/l$	pH	S C/C			
		STD	0000	1941																
	120	OBS	0000	1941																
		STD	0010	1941																
		OBS	0010	1941																
		STD	0020	1941																
	006	OBS	0020	1941																
		STD	0030	1941																
		OBS	0030	1941																
		STD	0050	1941																
		OBS	0050	1941																
		STD	0075	1940																
		OBS	0075	1940																
		STD	0100	1886																
		OBS	0100	1886																
		OBS	0115	1796																
		STD	0125	1766																
		OBS	0125	1766																
		STD	0150	1726																
		OBS	0150	1726																
		STD	0200	1637																
		OBS	0200	1637																
		STD	0250	1577																
		OBS	0250	1577																
		STD	0300	1535																
		OBS	0300	1535																
		STD	0400	1361																
		OBS	0400	1361																
		STD	0500	1191																
		OBS	0500	1191																
		STD	0600	1009																
		OBS	0600	1009																
		STD	0700	0816																
		OBS	0700	0816																
		OBS	0715	0757																
		OBS	0722	0766																
		STD	0800	0707																
		OBS	0800	0707																
		OBS	0840	0702																
		OBS	0890	0646																
		STD	0900	0649																
		OBS	0900	0649																
		STD	1000	0608																
		OBS	1000	0608																
		OBS	1050	0615																
		OBS	1055	0615																
		STD	1100	0599																
		OBS	1100	0599																
		OBS	1128	0541																
		OBS	1152	0555																
		OBS	1170	0498																
		STD	1200	0464																
		OBS	1200	0464																
		OBS	1210	0463																
		OBS	1230	0475																
		OBS	1250	0450																
		STD	1300	0443																
		OBS	1300	0443																
		STD	1400	0417																
		OBS	1400	0417																
		STD	1500	0407																
		OBS	1500	0407																

REFERENCE		SHIP	LATITUDE	LONGITUDE	WIND	MARDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS		WATER CODE	CLOUD CODES	NO. STATION NUMBER		
CRUISE CODE	ID. NO.	CODE	'	' 10	' 10	10°	1°	MO	DAY	HR. 1/10	CRUISE NO.	STATION NUMBER			DIR	HGT PER	SEA	TYPE	ALT		
318078	OU		3501 N	04802 W		113	58	12	04	180	1968	E20 016	4572	15	27		1	X1	0	6	0016
WATER					WIND		BARO-METER		AIR TEMP. °C		VIS CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS						
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB															
DT	SU	25	S14	227	194	172	7	34													
MESSAGE TIME	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg · dl ⁻¹	TOTAL P μg · dl ⁻¹	NO ₃ -N μg · dl ⁻¹	NO ₃ -N μg · dl ⁻¹	SIO ₄ -S μg · dl ⁻¹	pH	STATION NUMBER				
		STD	0000	1945																	
180		OBS	0000	1945																	
		STD	0010	1945																	
		OBS	0010	1945																	
		STD	0020	1945																	
006		OBS	0020	1945																	
		STD	0030	1945																	
		OBS	0030	1945																	
		STD	0050	1945																	
		OBS	0050	1945																	
		OBS	0060	1944																	
		STD	0075	1841																	
		OBS	0090	1791																	
		STD	0100	1788																	
		OBS	0100	1788																	
		STD	0125	1736																	
		OBS	0125	1736																	
		STD	0150	1699																	
		OBS	0150	1699																	
		STD	0200	1626																	
		OBS	0200	1626																	
		STD	0250	1556																	
		OBS	0250	1556																	
		STD	0300	1529																	
		OBS	0300	1529																	
		STD	0400	1379																	
		OBS	0400	1379																	
		STD	0500	1199																	
		OBS	0500	1199																	
		OBS	0560	1091																	
		OBS	0565	1081																	
		STD	0600	1038																	
		OBS	0600	1038																	
		STD	0700	0841																	
		OBS	0700	0841																	
		STD	0800	0730																	
		OBS	0800	0730																	
		STD	0900	0649																	
		OBS	0900	0649																	
		STD	1000	0613																	
		OBS	1000	0613																	
		OBS	1035	0592																	
		OBS	1060	0580																	
		OBS	1075	0593																	
		STD	1100	0589																	
		OBS	1100	0589																	
		OBS	1115	0565																	
		OBS	1160	0569																	
		STD	1200	0491																	
		OBS	1200	0491																	
		OBS	1206	0465																	
		OBS	1230	0472																	
		STD	1300	0433																	
		OBS	1300	0433																	
		STD	1400	0428																	
		OBS	1400	0428																	
		STD	1500	0409																	
		OBS	1500	0409																	

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS DEN SQUARE	STATION TIME IGMT				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CITY CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT	PER		SEA	TYPE		AMT
318078	OU		3500 N	04759 W	113	57	12	05	000	1968	E20	017	4206	15	32	2	2		X2	0	6		0017
						WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
COLOR CODE		TRANS. (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB															
DT		SD	26	S03	255	200	178	7	35														
MESSENGER TIME HR 1/10	CASIT NO.	CARD TYPE	DEPTH (m)	T °C	S %..	SIGMA-T	SPECIFIC VOLUME ANOMALY-20°	$\Sigma \Delta \sigma$ DNW. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	TOTAL-P µg - at/l	NO ₂ -N µg - at/l	NO ₃ -N µg - at/l	SiO ₄ -Si µg - at/l	pH	S C C						
		STD	0000	1950																			
000		OBS	0000	1950																			
		STD	0010	1950																			
		OBS	0010	1950																			
		STD	0020	1949																			
006		OBS	0020	1949																			
		STD	0030	1949																			
		OBS	0030	1949																			
		STD	0050	1948																			
		OBS	0050	1948																			
		STD	0075	1893																			
		OBS	0075	1893																			
		STD	0100	1746																			
		OBS	0100	1746																			
		STD	0125	1720																			
		OBS	0125	1720																			
		STD	0150	1689																			
		OBS	0150	1689																			
		STD	0200	1616																			
		OBS	0200	1616																			
		STD	0250	1543																			
		OBS	0250	1543																			
		STD	0300	1478																			
		OBS	0300	1478																			
		STD	0400	1353																			
		OBS	0400	1353																			
		STD	0500	1206																			
		OBS	0500	1206																			
		OBS	0550	1108																			
		STD	0600	0968																			
		OBS	0600	0968																			
		OBS	0645	0861																			
		OBS	0664	0855																			
		OBS	0675	0816																			
		STD	0700	0799																			
		OBS	0700	0799																			
		STD	0800	0721																			
		OBS	0800	0721																			
		OBS	0825	0698																			
		STD	0900	0651																			
		OBS	0900	0651																			
		STD	1000	0598																			
		OBS	1000	0598																			
		OBS	1010	0610																			
		OBS	1050	0613																			
		OBS	1070	0610																			
		OBS	1090	0570																			
		STD	1100	0574																			
		OBS	1100	0574																			
		STD	1200	0538																			
		OBS	1200	0538																			
		OBS	1232	0470																			
		OBS	1265	0486																			
		STD	1300	0458																			
		OBS	1300	0458																			
		STD	1400	0451																			
		OBS	1400	0451																			
		STD	1500	0415																			
		OBS	1500	0415																			

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA		TYPE
31	078	OU	3502 N	04755 W	113	57	12	05	120	1968	E20	018	4389	15	03	3	2		X2	0	6	0018
WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS													
COLOR CODE	TRANS. MM	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																
DT	SD	15	S02	260	194	194	7	42														
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t ?	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	D ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	Si O ₄ -Si μg - at/l	pH	S C C					
		STD	0000	1943																		
120		OBS	0000	1943																		
		STD	0010	1943																		
		OBS	0010	1943																		
		STD	0020	1943																		
006		OBS	0020	1943																		
		OBS	0025	1943																		
		STD	0030	1940																		
		OBS	0030	1940																		
		STD	0050	1935																		
		OBS	0050	1935																		
		STD	0075	1926																		
		OBS	0075	1926																		
		STD	0100	1793																		
		OBS	0100	1793																		
		STD	0125	1761																		
		OBS	0125	1761																		
		STD	0150	1719																		
		OBS	0150	1719																		
		STD	0200	1641																		
		OBS	0200	1641																		
		STD	0250	1571																		
		OBS	0250	1571																		
		STD	0300	1542																		
		OBS	0300	1542																		
		STD	0400	1399																		
		OBS	0400	1399																		
		STD	0500	1229																		
		OBS	0500	1229																		
		STD	0600	1026																		
		OBS	0600	1026																		
		STD	0700	0826																		
		OBS	0700	0826																		
		OBS	0725	0756																		
		OBS	0750	0740																		
		OBS	0770	0741																		
		STD	0800	0729																		
		OBS	0800	0729																		
		STD	0900	0664																		
		OBS	0900	0664																		
		OBS	0968	0631																		
		STD	1000	0625																		
		OBS	1000	0625																		
		OBS	1025	0618																		
		OBS	1032	0623																		
		OBS	1050	0623																		
		OBS	1060	0599																		
		STD	1100	0589																		
		OBS	1100	0589																		
		OBS	1155	0581																		
		OBS	1177	0563																		
		OBS	1193	0564																		
		OBS	1197	0568																		
		STD	1200	0568																		
		OBS	1200	0568																		
		STD	1300	0521																		
		OBS	1300	0521																		
		STD	1400	0479																		
		OBS	1400	0479																		
		OBS	1426	0471																		
		OBS	1438	0438																		
		OBS	1455	0432																		
		OBS	1468	0436																		
		OBS	1480	0418																		
		STD	1500	0418																		
		OBS	1500	0418																		

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